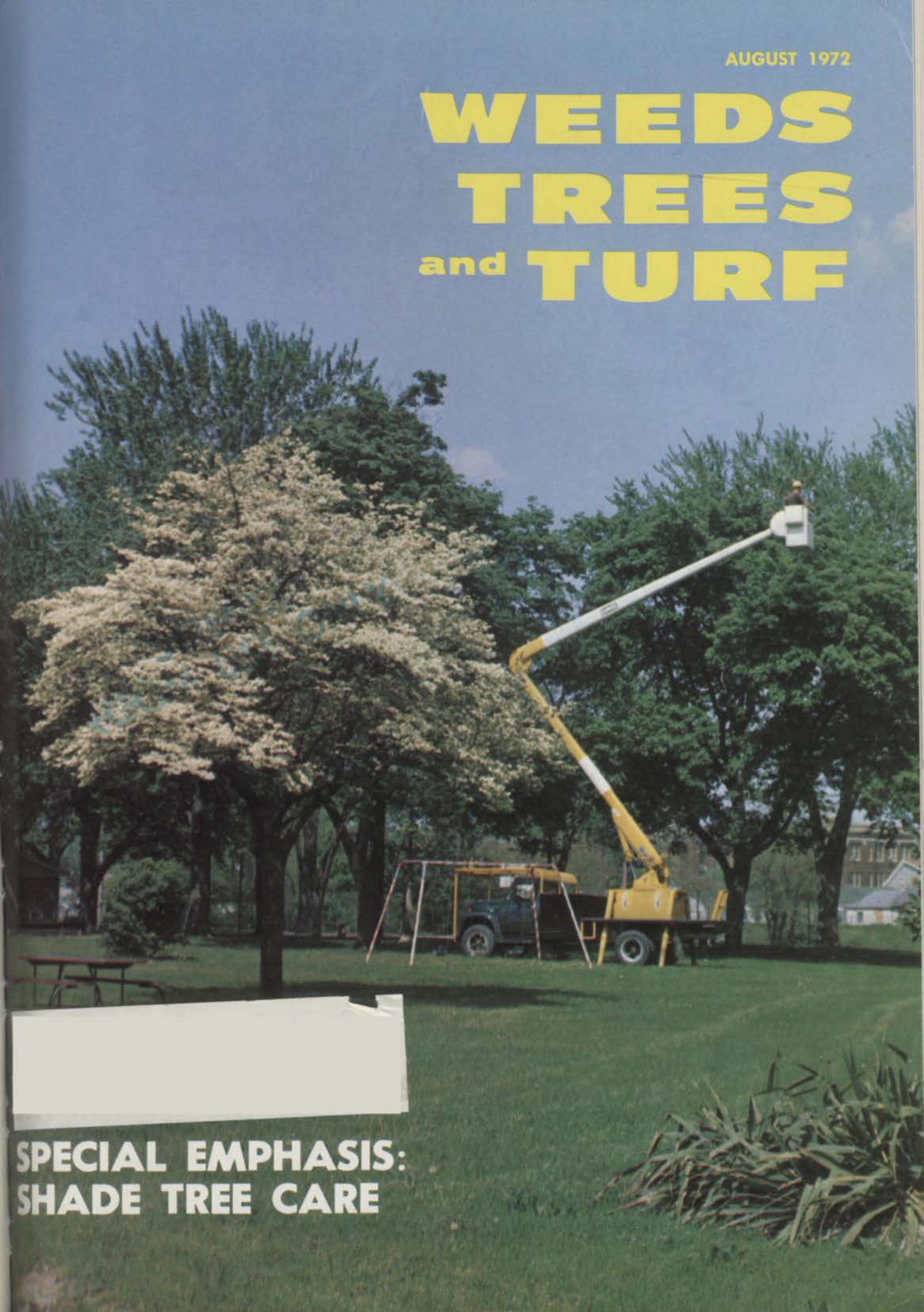
AUGUST 1972

WEEDS TREES and TURF



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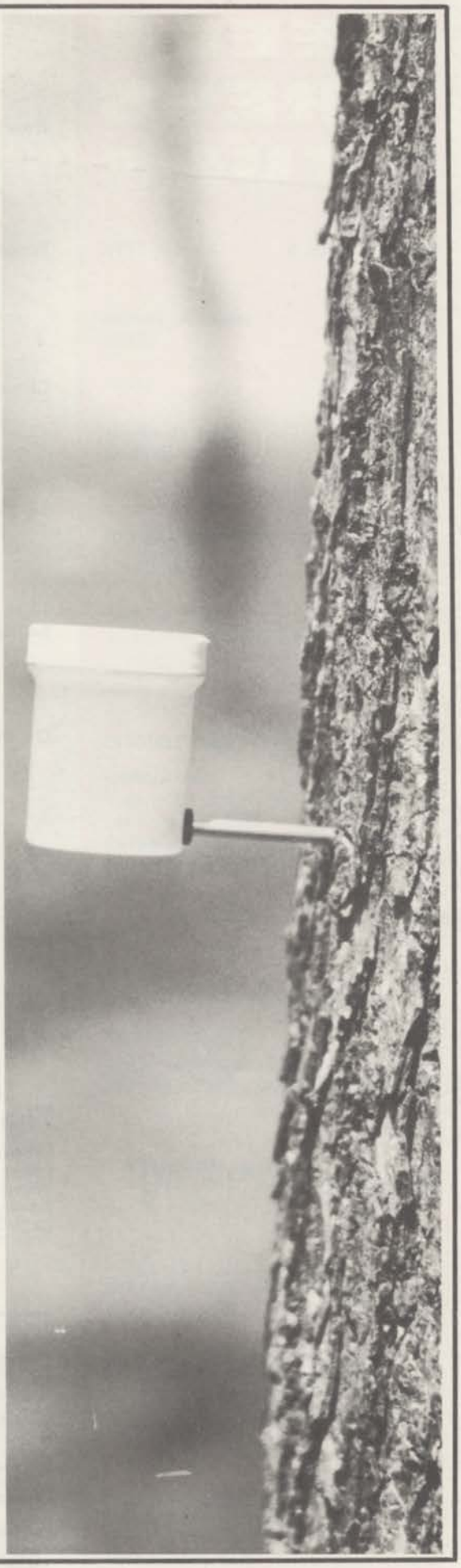

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WEEDS TREES and TURF

Volume 11, No. 8 August, 1972

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How to Select A Pro-Grade Chain Saw 14

One of the most versatile tools in the Green Industry today is the chain saw. Yet, few know exactly what to look for when faced with the decision to buy. Here's an informative look into the what to and what not to buy.

Prognosis for the Wounded Tree 16

Healing tree wounds has a history almost as old as trees themselves. However, arborists in an effort to discover answers continually ask many questions about wound dressings and the extent of wound damage. Dan Neely, plant pathologist at the Illinois Natural History Survey discusses the findings of his research in this area.

Chain Saws In Trees 18

The chain saw for the trimmer has increased the efficiency of this job tremendously. It also has increased the chances for an accident. Blair E. Caplinger of Nelson Tree Service discusses why chain saws in trees should be secured with an extra line.

18 Steps to Safe Tree Climbing 20

Tree climbing for the professional trimmer is as much a part of his trade as the saw or tree paint. Larry Holkenborg, landscape arborist demonstrates the safe way to climb trees that will result in fewer accidents and greater accomplishment of work.

Selling A Tree Program to the City 23

A city tree program can be a meaningful experience to every resident. William T. Bell describes the steps to success in selling and maintaining a tree program.

On the Job In A Bucket 28

Towers today have become an integral part of the arborist profession. Here's an in-depth look at Hi-Ranger towers as viewed by Fort Wayne city arborist, Ralph E. Mudrack.

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The Cover

Working comfortably high above the surrounding park on a Hi-Ranger tower is Allan Nyberg of Ft. Wayne, Indiana. As a member of the city parks department, he regularly uses towers in his tree trimming work. Towers have gained in popularity in recent years. Why? See the article starting on page 28 for the answer.

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Editorial — Bucket Safety

Within the very near future, owners of vehicle-mounted elevating and rotating work platforms (better known as buckets) will be under attack. The long arm of the Federal government clutching the Occupational Safety and Health Act (OSHA) is likely to swoop down and nab professional tree men for non-compliance with American National Standards Institute, Inc.

It seems that OSHA has adopted the standards of this august body which is represented by 28 nationwide firms including Asplundh Chipper Company and Mobile Aerial Towers, Inc. We feel indeed fortunate that two companies from The Green Industry comprise 7.14 percent of the total standards setting group. We can rest assured that new equipment manufactured by these firms will comply with these standards.

But what about buckets already on the job. There is a bulletin available (A92.2-1969) from American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018, which can serve as a guide. We would suggest you get one. This brochure details at least 53 mandatory performance, design and manufacture, testing and inspection and other ratings which a new bucket must pass to get an A on an OSHA report card. All new equipment will be manufactured with these standards incorporated. However, when the OSHA inspector descends on your business your bucket may take a beating.

He may or may not ask you to define the type of equipment you own or the use you have made with it. But don't take that as nothing. The standards detail equipment covered and not covered. For example, fire fighting equipment, for some reason not known to us, is excluded from the standards. In addition, an insepctor may declare that the boom truck on which you can attach an optional bucket as a violation. Unless it is equipped with over-riding controls, instruction plates and a host of other items, the OSHA watchdog may issue a citation.

We could quote passages of the Congressional Record, OSHA regulations and other official documents as further evidence, but the specific guidelines are contained in the American National Standards Institute bulletin A92.2-1969. This bulletin expressly forbids us, you, your Congressman and the OSHA representative from quoting or reproducing in any form any portion of the publication without written permission. It is copyrighted. We are not sure why, but we believe the laws of copyright protection have worked to keep you from getting the facts.

If you are contemplating a new bucket in the future, do yourself a favor and acquire this bulletin. It could be an uplifting experience.

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Government News / Business

The Environmental Protection Agency has granted expanded registrations to the Niagara Chemical Division, FMC Corporation for the herbicide Tandex. Clearances now permit treatment of the herbicide to 28 additional vegetation species in either granular or wettable powder formulations. Weeds added to the list include: dogbane, honeysuckle, Johnsongrass, rose, horsetail trumpet vine, spurge, goldenrod, aspen, oak, elm, and others.

The Committee on Toxic Materials and Harmful Physical Agents, a new committee of the American Society for Testing and Materials, has scheduled an organizational meeting in Philadelphia in October. This committee will be responsible for the development of safety and health standards (including test methods, classifications, recommended practices, and definitions) which will be responsive to the requirements of Sections 6 (b) (5), 6 (b) (7) and 8 (c) (3) of Public Law 91-596, the Occupational Safety and Health Act of 1970, for individual or families of toxic materials or harmful physical agents. Watch for this committee to gain wider attention in the news in the future!

At presstime, only seven states were left to sign the memorandum committing them to a cooperative program started by USDA to promote the safe use of pesticides. Primary concern here are the more toxic pesticides, and state agreement to the memorandum provides for planning for precautions to take with each pesticide. After this material is prepared, USDA and the states will adopt these precautions in their pest control programs and undertake informational programs on safe handling procedures. Still to sign the measure are Alabama, Alaska, Connecticut, Iowa, New Jersey, New York, and Vermont.

Mergers and outright purchases for this year are taking place at record pace. Vaughan Jacklin Corporation was formed from Jacklin Seed Co., Inc. and Vaughan's Seed Company; Tenneco, Inc. has been granted approval by the Bank of England to proceed with the acquisition of David Brown Tractors Ltd.; Wayne Manufacturing Co. will become an operating division of FMC Corporation.

The administrative ruling on DDT was not cold yet when EPA Administrator Ruckelshaus fired another cannon at the pesticide industry. The target was aldrin and dieldrin. This time, in a "Determination and Order to Cancel," EPA used scatter shot. While most of the cancellations of aldrin-dieldrin products that relate to the Green Industry were announced March 18 (turf, aerial and ground spraying or dusting of foliage, and others), use of these products as soil toxicants to protect structures were appealed. The Advisory Committee on the matter granted the appeal. In the recent EPA action, nursery dipping of roots and tops of non-food plants were retained. Ruckelshaus is expected to rule soon on the question of suspending other aldrin-dieldrin uses.

The Green Industry regrets the passing of Einar A. Jacobsen, retired Chairman of the Board of Jacobsen Manufacturing Company. Mr. Jacobsen died July 18 at the age of 66. The son of the founder, he joined the company in 1928 following graduation from the University of Wisconsin. He led the company through its greatest sales growth years.

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PIONEER
CHAIN SAWS

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Davey can provide experienced men with specialized equipment to help you get the work done quickly and expertly. Or you can handle it within your department, knowing you're doing first things first.

Call your local Davey representative for help in determining and organizing your tree service needs. He's in the Yellow Pages under Tree Service.

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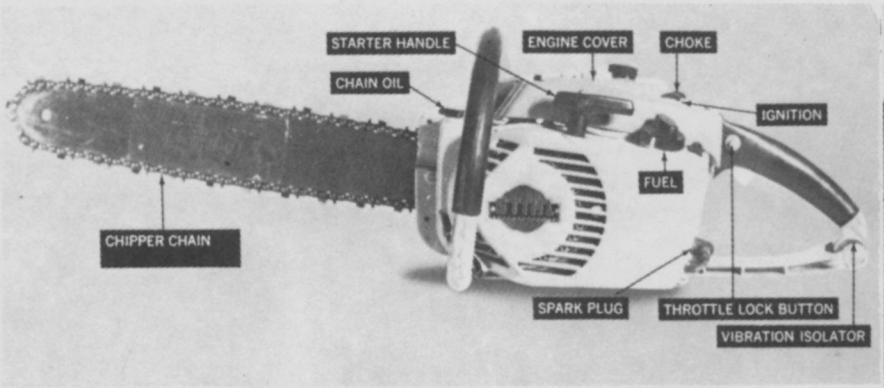


This professional grade chain saw made by Stihl combines most of the features needed by arborists and tree care firms.

Commercial use saws like this John Deere model feature controls that are well grouped for the user.

How To Select A

By **HANK HARVEY**
Arborist
Rutledge, Pennsylvania

SUCCESS and profit with a power saw begins at the beginning. That's when you walk into the dealer's store and sally out with the new saw that you have selected to meet your needs. Not only will the RIGHT choice put extra money in your pocket, but you can be super sure that the WRONG one will cost you money, money, money in repair bills labor cost due to down time and even possible customer loss.

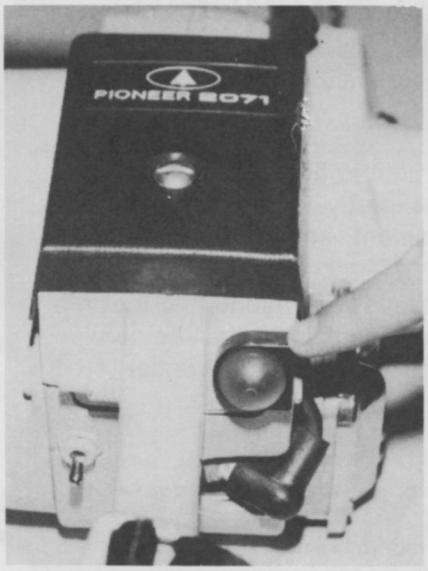
The extra time spent to be SURE you chose the right saw for YOUR specific application will be the best guarantee of satisfaction you can get. Really shop around. Too many professionals don't. The often pay dearly later.

What factors usually influence your ultimate decision in selection of any piece of equipment. Price? How well you know the dealer? A familiar name brand? They are all significant but are they all really the vital considerations that they should be?

Here are what we feel to be very fundamental considerations for guiding your selection of the right power saw: 1. **Application** (your specific use); 2. **Design and Construction;** 3. **Features** (standard and optional including safety features); 4. **Service;** 5. **Price** (per-dollar value).

Obviously if you are only using a power saw to cut light brush or on occasion heavy usage, you don't need the power or durability required if you are doing heavy tree cutting day in and day out.

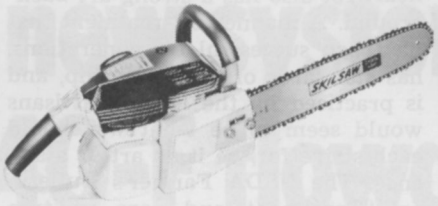
The average tree service contractor or landscaper doesn't need a gi-



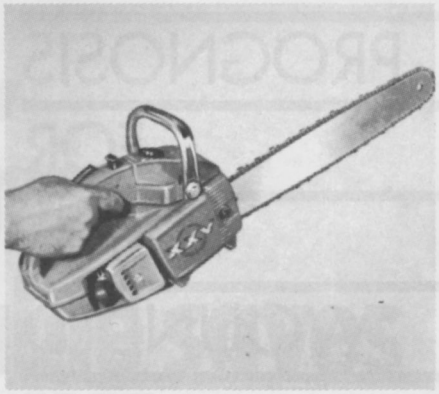
Primer shown on this Pioneer saw is the "bulb" type. Use it to give you first pull starts.

This big Homelite "lightweight" and ones by other manufacturers will meet the heaviest demands of most tree surgeons and landscapers. Author sees little if any need for gigantic "logger" saws.

McCulloch Power Mac 6 is a good example of compact wrap-around styling and well-grouped controls.

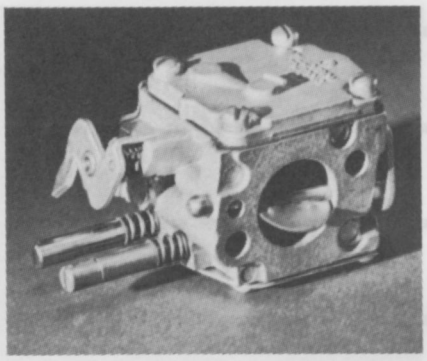


Skil saw above comes with a 4.2 cu. inch engine that's big enough to handle a 16 inch bar. Saw is well balanced.



Poulan makes a truly superlight power saw. It should be light enough to use with one hand, if needed.

Pro — Grade Chain Saw



Many saws have a diaphragm type carb — a must for professionals who must cut in all positions. Be sure yours has it.

gantic Great Northwest Loggers (2 man, 6′ bar saw for his daily work any more than a carpenter needs a sledge hammer to drive small nails. "The bigger-the better" isn't necessarily true in your business, especially if the saw has to sit around, unused for weeks on end.

Non-use can kill a piece of equipment just as dead as overuse. Bars, chains and sprockets rust when idle. Cylinder walls and pistons corrode. Seals and gaskets dry out and crack. Gas in the carburetor goes stale and forms shellac that gums it up.

So buying a big brute you will hardly ever use probably won't save you a nickle in the long run. In fact, you will be very lucky if Big Bertha even starts on those rare occasions when you *do* need it.

What *are* you supposed to do when you have a big tree or some heavy-duty cutting lined up? First, you could RENT a big one when you really need it. Or, you could subcontract that particular job. Or, as an ace-in-the-hole, you can do most any job with a smaller saw that you can with a bigger one . . . with a little more effort, time and chain oil. (Remember you can slice a 5″ grapefruit with a paring knife).

Only *you* can accurately evaluate your realistic need in a saw or saws. But take the time to do just that before you buy. If you really need several different saws by all means get what you need. Most professional tree service contractors need at least one big saw (24 or 30″ bar), but it doesn't have to be a heavy weight monster.

On the other hand, *underestimating* your needs can cost you money, too.

A familiar cry among a lot of tree service contractors is "those super

(continued on page 36)

What About An Electric Power Saw?

Generally speaking they are used very little, if at all, by most tree surgeons, landscapers and outside maintenance people. But there are some occasions when they are necessary.

For instance, in QUIET ZONES such as around hospitals, etc. Or where no flammable or noxious gasses are permitted. Or when working in dangerous NO-SPARK AREAS. In some rare cases it is actually more convenient and economical to use an electric power saw than gasoline powered. (Such as in a wood yard near electric power outlet.)

If you do have occasion to use an electric power saw, here are some things you should look for before buying:

INSULATION — is it double-insulated? (You could get a hell of a shock working on damp ground or wet brush.)

HOUSING — Is the casing impact-proof? Some of the new impact resistant plastics are really great, but if it has a plastic housing make sure it is really good, not just **any** plastic.

CORD — See if it is heavy duty quality and well reinforced where it enters the motor housing. This is important because of the severe amount of twisting and turning it will have to endure in commercial use.

PROGNOSIS FOR THE WOUNDED TREE

By DAN NEELY

Plant Pathologist

Illinois Natural History Survey

ARBORICULTURE is both an art and a science. The art precedes the science by many centuries. Cavity treatment is almost 100 percent art. Treatment of wounds to prevent heart rot also has a strong art background. A manner of treatment that has been successful for generations, has standards of craftsmanship, and is practiced by the leading artisans would seem to be what we should each strive for, be it an art or a science. The USDA Farmer's Bulletin on "Treatment and care of tree wounds," published in 1934, contains 38 pages of recommendations for care of tree wounds almost exclusively based on the state of the art at the time.

During and since the 1930's many individuals have sought to explain why certain arboricultural practices are successful and other practices are unsuccessful. The methods they used to obtain the explanations have been scientific. They were based either on large numbers of observations or on experimentation. This excursion into the field of science has now created questions concerning whether or not certain heretofore accepted arboricultural practices are beneficial to trees. Lately this questioning has been especially aimed at tree wounds.

Some of the questions that scientists in the field of arboriculture has been striving to answer are: 1) how much damage do wounds cause?, 2) how does wound size and location influence tree damage?, 3) how do wounds heal?, 4) what cultural practices affect rate of healing?, 5) what wound dressings are best?, and 6) what do wound dressings accomplish?

The answers to some of these questions as determined by the scientists can be found in scientific and professional publications. Many of the answers have been accepted by arborists and fellow scientists while others are disputed.

The answers concerning wound healing are well documented and well received. Wounds heal by covering the exposed wood (or cavity filler) with callus tissue. The callus tissue originates in the living cambium at the margin of the wound. The cambium cells that normally would have produced ray cells in the wood and bark are the first to produce callus tissue. Callus production is more rapid at the sides of the wound than from the top or bottom. Callus tissue matures into wood and bark typical of the species.

Still being debated are the answers concerning the best wound dressing. An ideal wound dressing is one that will persist on the surface of the wood for an indefinite period of time, prevent entrance of wood-rotting and disease-causing organisms, and stimulate rapid callus formation and wound closure. Asphalt-based compounds are most frequently applied, although lanolin- and rubber-based materials and shellac have been tried frequently. Many chemicals have been added to wound dressings in an attempt to increase their effectiveness. These usually are fungicides or plant-growth-stimulating compounds called auxins.

Results from many tests comparing wound dressings indicate that shellac is nontoxic to callus tissues. In certain tests, wounds treated with shellac closed faster than untreated wounds. Shellac applied immediately after wounding prevents dieback around the margin of the wound. The wound is therefore somewhat smaller and heals earlier than untreated wounds. Shellac is not persistent. It will not protect the exposed wood for many months.

Asphalt-based materials are slightly toxic to the tree, but they are easily applied, and are persistent for one or more years. Many auxins have been added to wound dressings and none have been proven to be consistently beneficial.

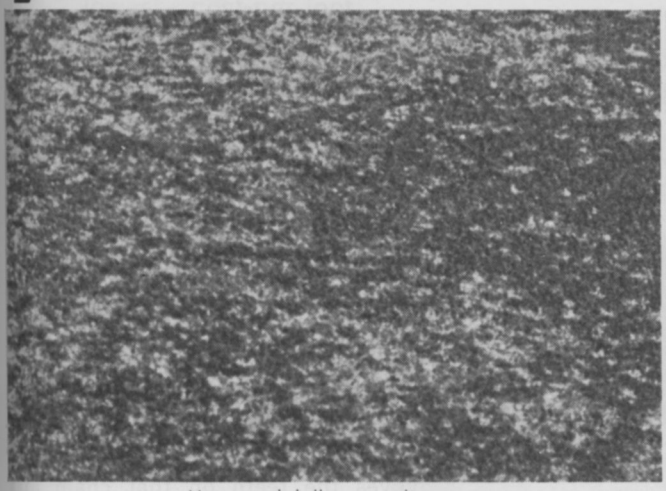
The materials currently recommended as wound dressings are being challenged to show that they accomplish either rapid wound closure or fungus exclusion. In many tests using wound dressings with auxins, the untreated wounds have healed as rapidly and, in most cases, more rapidly than have treated wounds. The materials currently used are not shortening the time for wound closure.

Alex Shigo and Charles Wilson, with the USDA, are now questioning whether wound dressings prevent entrance of wood-decay fungi. They are sectioning trees at varying intervals of time following application of wound dressings and isolating and identifying rot-causing organisms found in the wood beneath the wound dressing. These tests should determine the effectiveness of wound dressings in preventing entrance of wood-rotting organisms.

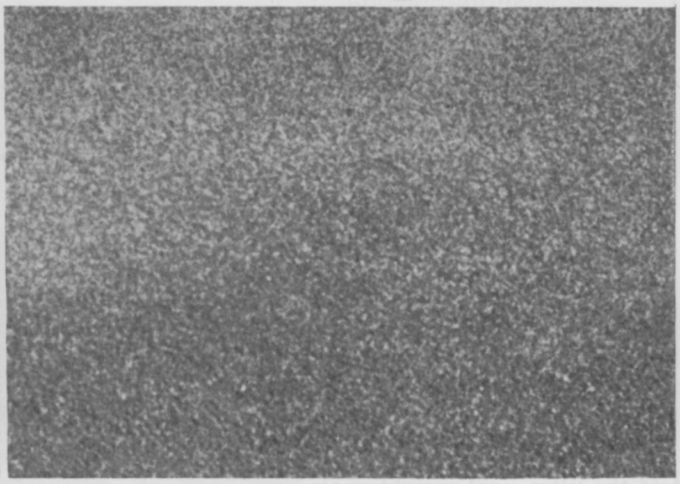
At the Illinois Natural History Survey, our research is centered on the rate of wound healing. The data obtained in our studies do not refute the conclusions of previous researchers. Rather, they substantiate many conclusions previously not subjected or infrequently subjected to experimental evaluation.

(continued on page 26)

When dollar spot hits, here's how new systemic MERTECT® 140-F flowable saves your turf, time, and money.



Untreated dollar spot disease



Treated with MERTECT 140-F

These pictures show the kind of dollar spot control you get with new flowable MERTECT 140-F. Even against cadmium-resistant strains. It also works well against brown patch and *Fusarium* patch.

And with its special advantages, MERTECT 140-F makes the performance picture look even better.

Being flowable, it saves you time in measuring and mixing. Handling is safer. Dispersion is more complete, so you get the right mixture for more effective results.

Since MERTECT 140-F is systemic, you also get away with fewer applications per season, thanks to its residual disease control. And it has a lower dosage rate than other fungicides, so you save there, too.

Just follow the label instructions. MERTECT 140-F is not phytotoxic to grasses when used as directed. Your Merck distributor has new flowable MERTECT 140-F now. If you don't have his name, write us. Agricultural Products, Merck Chemical Division, Merck & Co., Inc., Rahway, N.J. 07065.

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MERCK

For More Details Circle (110) on Reply Card

Power Saws In Trees

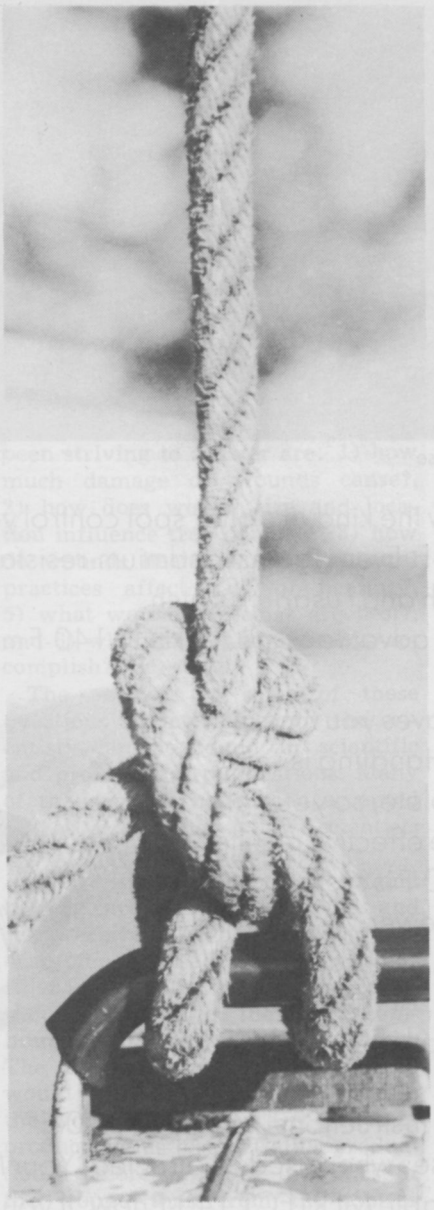
By **BLAIR E. CAPLINGER**
President
Nelson Tree Service, Inc.
Dayton, Ohio

OVER the years, there have been many major innovations in tree trimming tools. Power saws, chippers, aerial lifts and chemical growth retardants, just to name a few, have improved the climber's lot.

But perhaps the most important invention has been the introduction of the ultra-light weight chain saw. This handful of power that can cut through the toughest limb in seconds has extended the capability of the man in the tree, improved his efficiency and resulted in a superior job.

For the arborist, the advent of this saw has meant increased accomplishment because it represented opportunities that heretofore had to be done by hand or with heavier chain saws. Properly trained climbers a decade or more ago used the heavier saws proclaiming them as a major breakthrough. Their recognition of the use of power tools in trees has now evolved to a point at which few climbers today would tackle a job without the aid of a small, light weight saw as part of the basic tool package.

The versatility of this type saw is not without problems, however. When the arborist of yesterday used the heavier saw he practiced a set of safety precautions that are still applicable today but only believed by about half of the trade. Ten years or more ago the climber tied an extra rope (not a life line) to the saw to provide the extra measure of safety needed. Today's climbers often believe that the light weight saw, in addition to being easier to handle and more compact, is safer than its ancestors.



The crossover on the top handle is the preferred place to tie a rope. A clove-hitch (shown above) is usually satisfactory.

This is not exactly true. While it is true that ease of handling and compactness have made the saw more versatile, the features of today's models parallel yesterday's in practically every detail, only in miniature.

Consider that current models still have a bar and a chain (sharp we hope). Each has an engine which moves the teeth on that chain at speeds of approximately 3,000 feet per minute and will cut off a finger, hand, or leg just as efficiently as its older big brother. Each must also be stopped in the same manner as the larger saws. (Even though it *can* be used with one hand, it should be held in both hands. Shutting off the saw while holding it with one hand is possible but far more difficult than when having both hands on the saw.)

Today's saws like the subcompact cars offer every feature and more of the larger versions—including the chances for an accident. And even the highly trained climber can have a mishap.

For example, not long ago, an experienced trimmer was using a saw to strip a large elm. Both saw and man were properly crotched. When the cut he was making was finished, the man swung away to clear the limb, and let the saw swing without shutting it off. When the two bodies (man and saw) swung back together, the saw swung into the climber's rope and cut it. The man fell 47 feet and landed on another man before

(continued on page 40)

the Ditch Witch building-block concept begins with these versatile handlebar units.

Three compact Ditch Witch units provide a solid foundation for the Ditch Witch building-block concept of trenching! They're small and compact, yet they're fully self-propelled to deliver big-machine performance on the job. The 7- to 9-HP **C-Series** delivers the lowest cost-per-foot of trench of anything in its class . . . it's so compact it slips through any standard yard gate with ease —and one man can easily load it into compact van or pick-up.

The **M-Series** offers 9- to 12½-HP, and is available in a track-mounted crawler model. With three digging speeds, plus reverse, it delivers as many feet of trench per hour as bigger competitive models costing twice the price.

For utility service installations, you can't beat the **VP12 Vibratory Plow,** with 25-HP capabilities and full hydraulic control. Install service lines or sprinkler systems without trenching, without costly restoration to expensive turf.

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MODEL M

MODEL VP12

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DITCH WITCH

For More Details Circle (122) on Reply Card

Put saddle on and uncoil climbing rope. Place it on the ground under the tree so it will not tangle. Notice safety line is attached to left side of saddle. Author is pictured here.

Tie throw knot to end of rope. Wind rope around snaffle hook until it forms a firm ball.

Coil rope in hand and throw it over the second lowest limb from tree's base. This permits you to stand on the lowest branch when you pull yourself into the tree. Roll rope over the limb until you can reach the ball. Untie ball and tie end to saddle. FROM HERE ON ALWAYS STAY TIED IN.

18 Steps To Safe Tree Climbing

By LARRY HOLKENBORG
Arborist
Sandusky, Ohio

Foreman helps pull climber into tree. If you use a ladder, place bottom two feet away from tree for every ten feet of height. Secure ladder at top and bottom.

Step into first crotch as soon as possible. Unsnap safety line from saddle, wrap it around tree trunk and snap it to saddle again.

Untie or unsnap climbing line from saddle. Make another ball in the end of the line and throw it over a higher limb. Repeat steps 2, 3, & 5 until you reach the top of the tree. Always have the safety line or climbing line fastened to you and the tree.

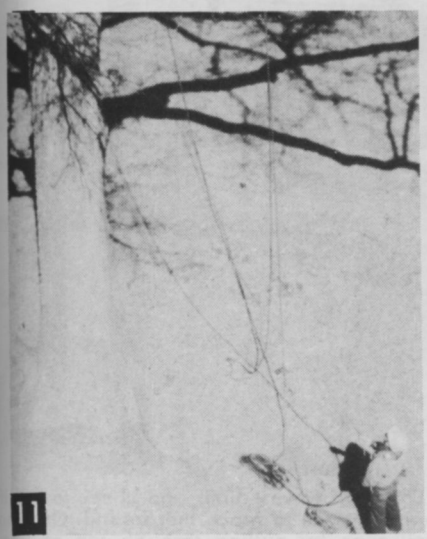
Ground man holds tail of the rope in a tree that is easy to climb. Wind around tree so your rope will hang over a limb. Ground man can hold you in the tree if you should slip.

With each move higher in tree, ground man assists in pulling climber to desired position. Note here that the ground man should keep alert for potential accidents.

Throw climbing line to branches within the capability of attaining on one climb. Don't try to climb to the top in one or two steps.

Tie in at the top on a sound crotch which will hold you in the tree. Avoid tight crotches. They bind the rope and hinder free movement. Look for a sound four inch upright branch and a two inch side branch. Put rope around the larger limb.

Pull knot and it will let you down gradually. Here climber is swinging to outside limb. He is in complete control. Should a fall occur, get your feet in front of you.



Ground man holds climbing rope until climber is tied in.

Top crotch should be selected from the ground before climbing. Keep near the center of tree and away from utility wires. Use a taut-line hitch to tie into tree. Set in saddle slowly to test hitch. Be sure it is tight enough.

14

Literally out on a limb, climber walks to work point. Close inspection of photo will show that safety rope is nearby and climbing line is still attached.

15

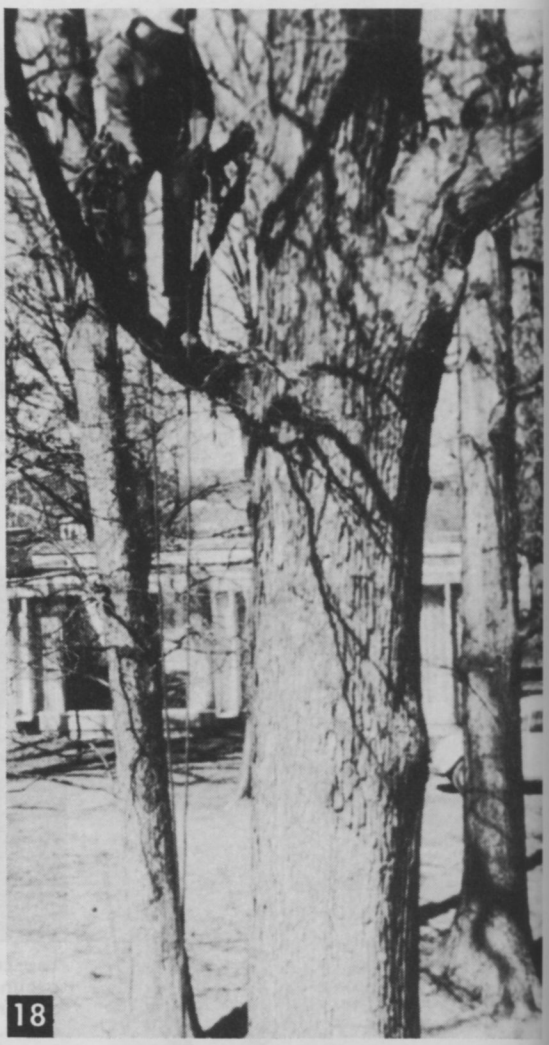
With safety rope around limb, climber signals ground man to send up chain saw. We carry saw on a rope attached to the belt. If dropped, saw will fall below feet.

16

During saw operation both safety and climbing lines are attached. Climber stands comfortably. Saw cuts are made with ease.

17

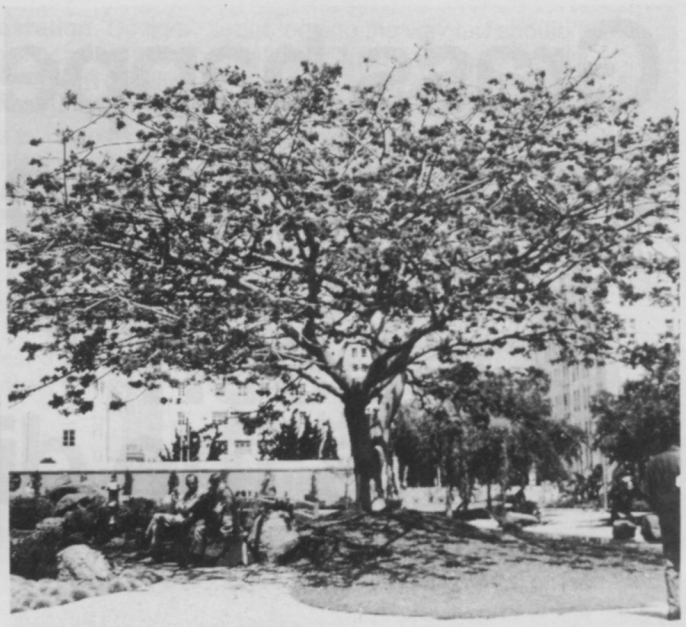
Coming down. Notice that the knot on the safety line is down. This prevents it from becoming tangled in the tree. Climber is free to move down tree with minimum of effort.



18

Stand in crotch of lowest limb and check to see if there is enough rope to reach the ground. Once on ground coil rope by pulling through top of tree. This pulls out twist in the rope and provides good time for rope inspection.

Equipment kept in good repair enhances employee relations. When on the job, proper identification to the passing motorist provides good public relations. People seeing the tree program in action are more likely to consider their tax dollars are wisely spent.



Place or plant trees in parks that citizens will enjoy. This flowering tree improves the park setting and provides a pleasant diversion to other trees that line city streets. Note that park benches are placed near these trees so that people may enjoy the shade and environs.

Selling A Tree Program To The City

By WILLIAM T. BELL
Superintendent of Street Trees
City of Long Beach, Calif.

THE statement that "nothing succeeds like success" is a truism which encompasses all aspirations. Just as a business corporation is an end point of successful business deliberations, so is a good street tree program the end point of the successful deliberations which formed its structure. In either case, positive results in the beginning help sell an expansion, whether to shareholders or to taxpayers.

In our case, the question which comes immediately to mind is—what deliberations formulate a good street tree program, and how should they be implemented?

With today's emphasis on ecology, the public's awareness of the important role trees play within our urban areas will bring enough pressure on any political entity to force them into a street tree program. But merely having a program is not enough. What are some of the things that should go into making a *good* street tree program?

In the first place, it is of the utmost importance to have a competent man in charge. In most cases, it should be a person with a college degree in forestry, horticulture or a closely related field.

This is not to say that the man who has come up through the ranks is not fitted for the position since in most instances he has supplemented his practical experience with schoolwork.

In any case, the man in charge should be hired for his technical capability and broad experience and not as the product of a political patronage system.

Along with technical knowledge of the field, the person in charge of a street tree program must be a sound administrator, a public relations man, and in some degree, a salesman.

While a good street tree program, when established, will sell itself to management, initially it may require salesmanship to get its concepts underway. However, a public awareness of the broad value of trees ecologically is not necessarily an informed public in the sense that adds support to a viable street tree program. And in this respect a public relations campaign spiced with subtle salesmanship should be a continuing feature of the program.

(continued on page 50)

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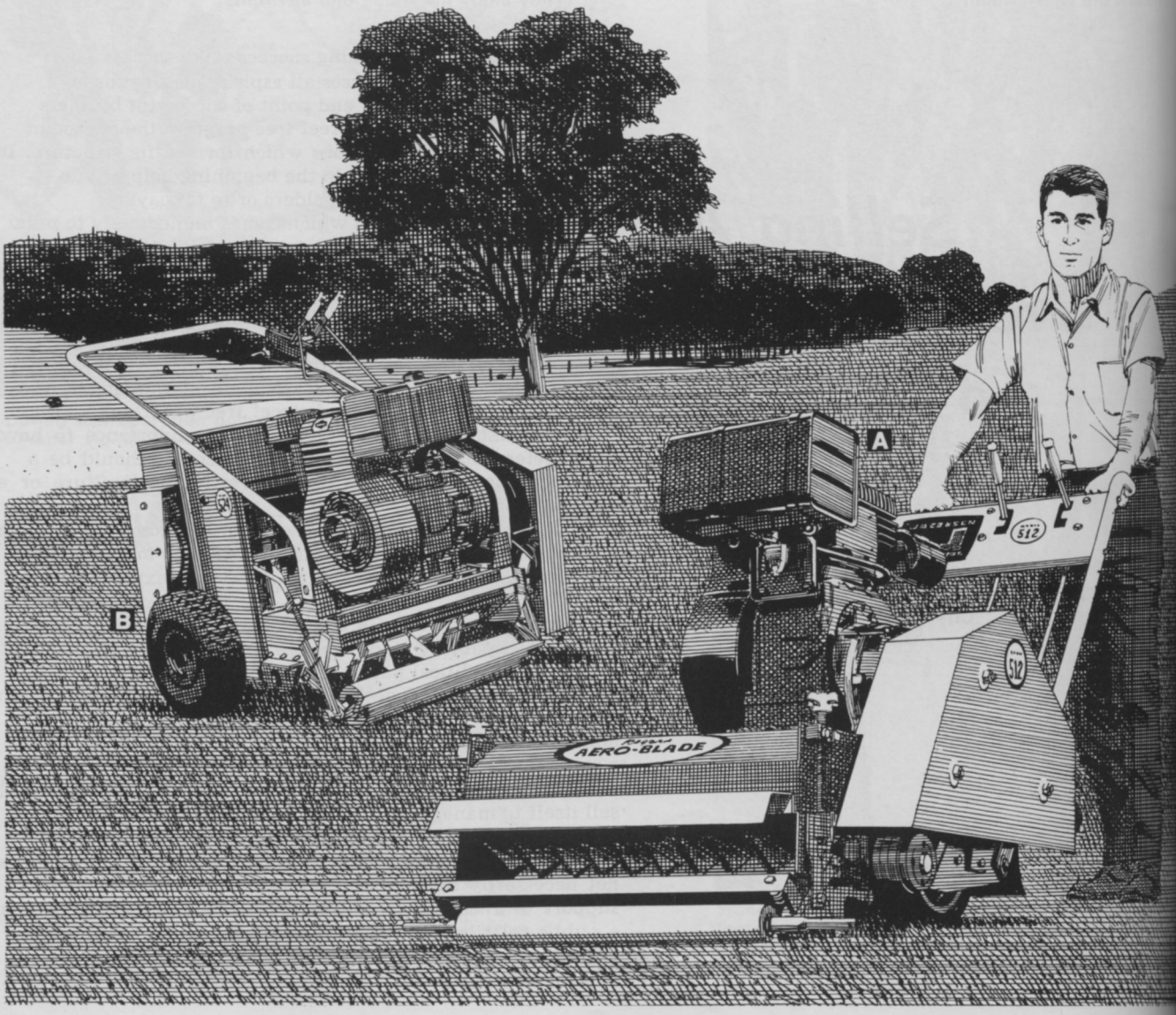

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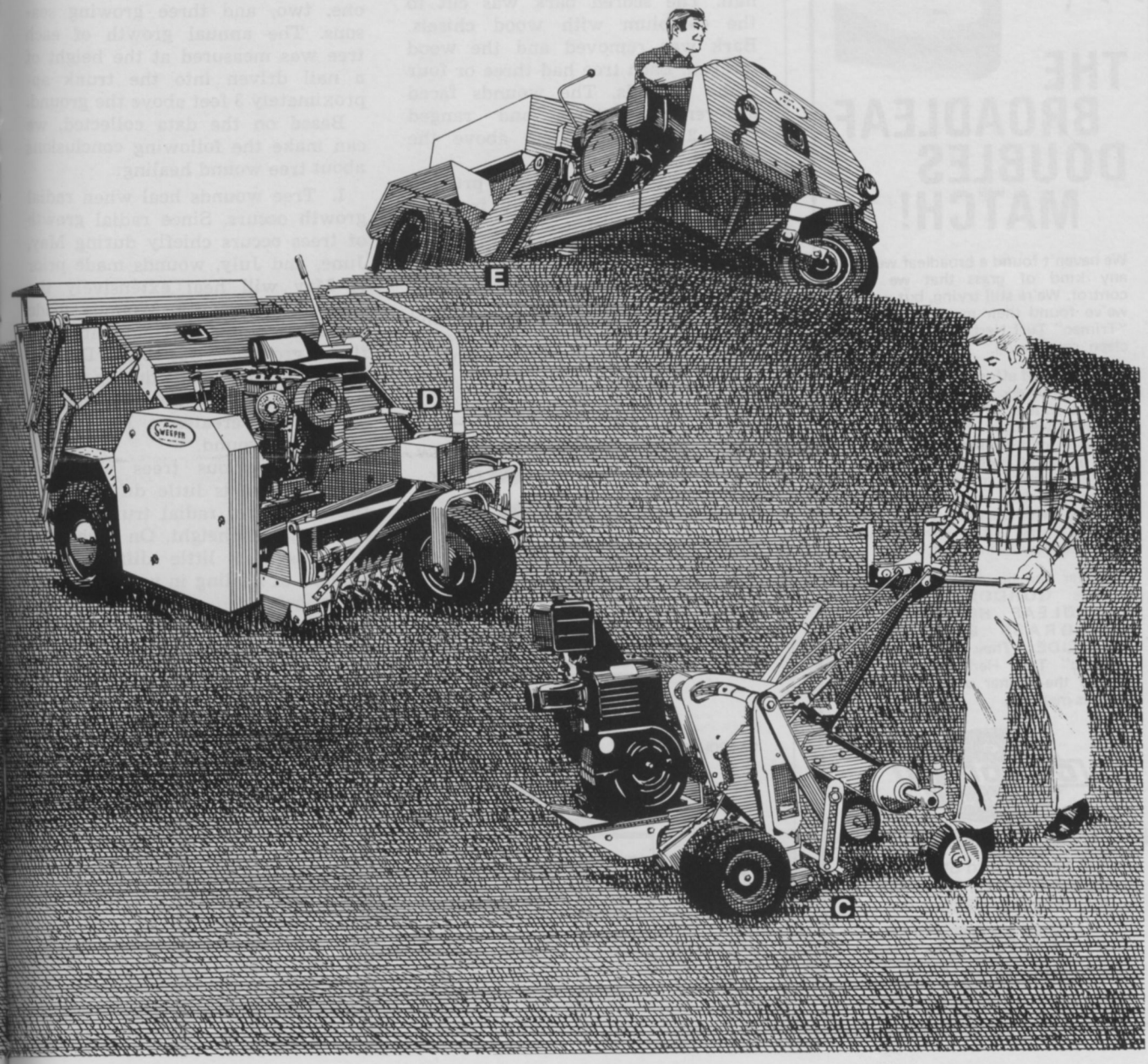

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WOUNDED TREE *(from page 16)*

Our study had two objectives. We compared the amount of healing on one tree, of wounds with one or more of the following variables: shape, width, facing direction, height, season of wounding, stub length, and wound dressing. The second objective was to determine the relationship between tree vigor and rate of healing.

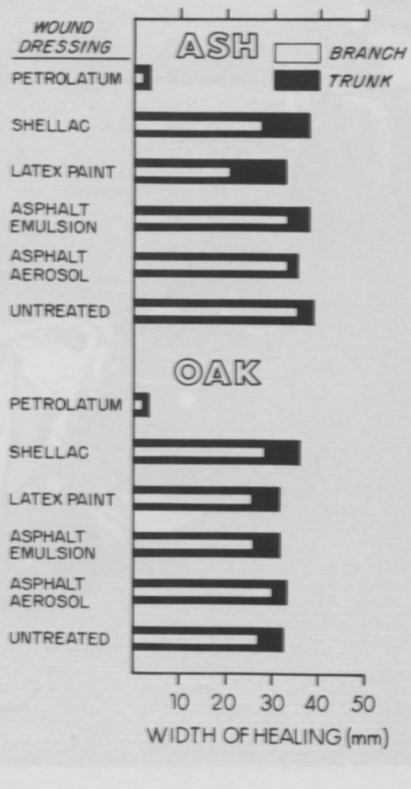
The 3-year study was conducted at the Morton Arboretum, near Lisle, Illinois, 25 miles west of Chicago.

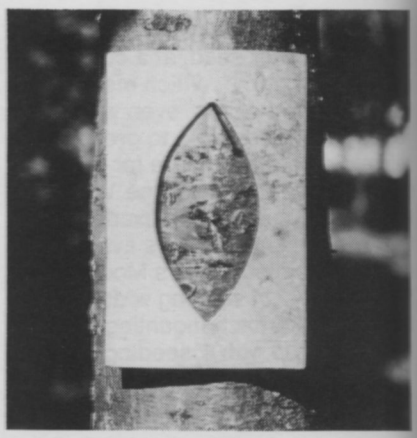
The three species of trees used in this study were white ash, honey locust, and pin oak. The trees were growing in square 100-tree blocks with 15 or 20 feet between trees. The trees were 15-20 feet tall when the study began.

All trunk wounds were made by placing a metal template on the trunk and scoring the bark with a nail. The scored bark was cut to the cambium with wood chisels. Bark was removed and the wood scraped. Each tree had three or four trunk wounds. The wounds faced different directions and ranged from 2 feet to 6 feet above the ground.

Both trunk and branch pruning wounds were made early in May. The width of each wound was measured and recorded the day the wound was made. The annual amount of healing was determined from measurements of width of wood still exposed in the fall after one, two, and three growing seasons. The annual growth of each tree was measured at the height of a nail driven into the trunk approximately 3 feet above the ground.

Petrolatum hindered wound healing on ash and oak. Branch removal and trunk wounds treated with other wound dressings healed no faster than untreated wounds.





Trunk injuries of uniform size were made by using a metal template. Square, circular, and elliptical wounds were each 2 inches wide. Elliptical wounds were 4 inches long.

Based on the data collected, we can make the following conclusions about tree wound healing:

1. Tree wounds heal when radial growth occurs. Since radial growth of trees occurs chiefly during May, June, and July, wounds made prior to May will heal extensively the first calendar year. Wounds made in July or later will heal little the first growing season. Dieback around wounds made during the autumn frequently occurs during the winter and creates a larger than necessary wound.

2. In vigorous trees with low crowns there is little difference in the amount of radial trunk growth in relation to height. On such trees there is also little difference in amount of healing in wounds of different height.

Radial growth begins at the top of the tree and progresses downward. Growth at the base of the large tree may begin weeks after twig growth. In nonvigorous trees the amount of radial growth in the tree top may be much greater than radial growth on the trunk. Wounds higher up the tree in this instance would heal faster than trunk wounds.

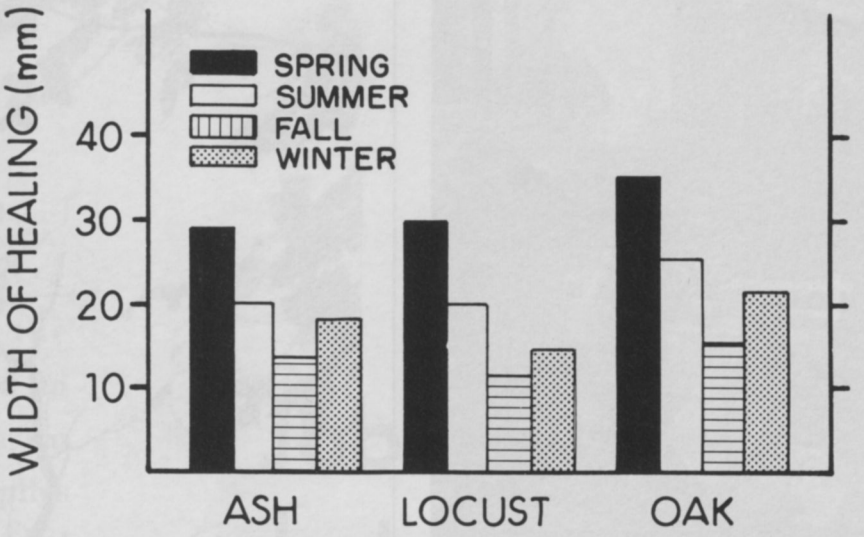
3. Radial growth around the circumference of a tree trunk is not uniform. Soil, water, air, root location, and competition factors around the tree affect radial growth much more than direction. Since facing direction affects radial growth slightly, if at all, the facing direction of

wounds also affects healing of wound margins slightly, if at all.

4. Environmental conditions during the year influence the width of the annual growth ring. Any cultural practice which increases the rate of growth of the tree decreases the time required for wound healing. Feeding and watering wounded trees is therefore recommended.

5. In our present study there was little or no difference in rate of healing due to tree species. Identical wounds on pin oak, white ash, and honey locust all healed the same amount *per unit of radial growth.* All tree species, however, do not grow the same amount each year. The wounds on rapidly growing trees will heal in a shorter period of time.

6. Width is the single most important dimension of the wound that affects rate of healing. For this reason it is sometimes possible to remove bark above and below wounds (to shape wounds) without increasing the length of time required for healing. The area of the wound is increased but the width is not. It is not a good practice to increase wound width merely to have a beautifully shaped wound.



Wounds made in the spring prior to leaf emergence healed in a shorter period of time than did wounds made during other seasons. On ash, locust, and oak, dieback occurred around wounds made in the fall and they healed less rapidly than did wounds made later in winter.

7. Healing rates of pruning wounds are strongly influenced by the length of branch stub remaining after branch pruning. Even though larger wounds result, pruning cuts should be made through the branch collar. Branch stubs even 1 inch long greatly retard wound closure.

Much additional research is needed before we can fully explain tree wound healing. The hypothesis that all tree species and sizes of trees heal at equal rates based on units of radial growth certainly needs to be confirmed or refuted.

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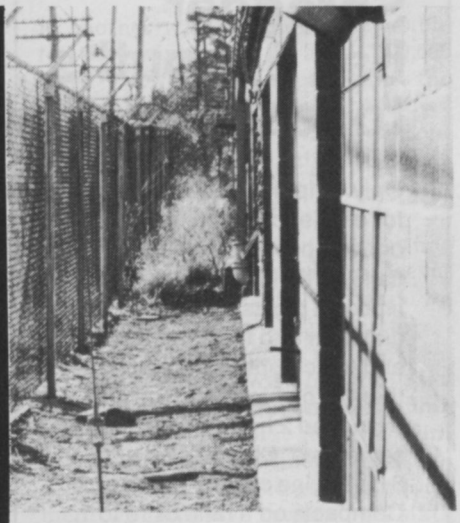

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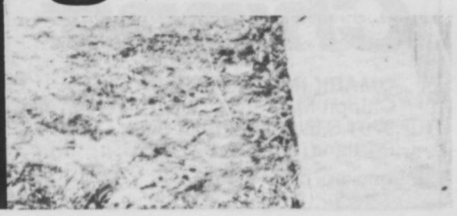

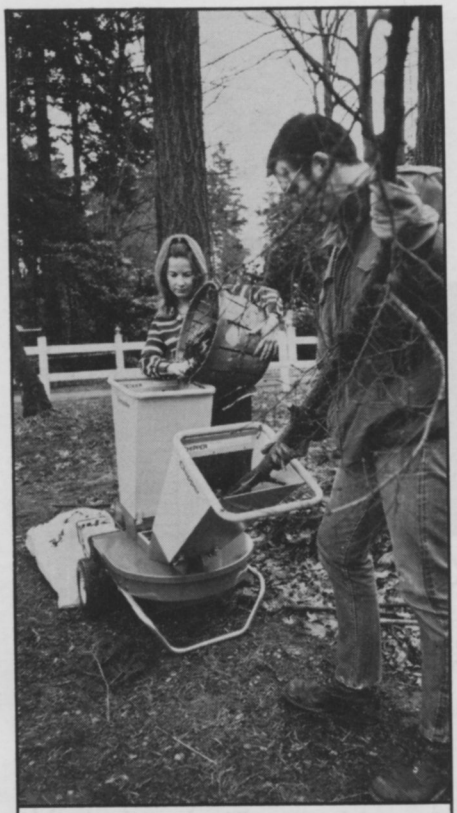

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On The Job In A Bucket

Hoosier Arborist Tells How

Ralph E. Mudrack is city arborist assigned to the parks department of Ft. Wayne, Ind. He is responsible for tree care for 450 miles of streets and 54 parks in this Hoosier city.

There's a growing use of buckets and towers among arborists and tree care companies. The reasons are obvious. A skilled basket operator can make short work of a big trimming job.

MORE and more arborists across the country are retiring the rope and saddle in favor of modern personnel aerial platforms. These buckets or towers, as they are called in the trade, enable a trimmer to work faster and accomplish a more professional job with fewer in-tree accidents than ever before.

Aerial towers in one form or another have been a popular idea ever since the first climber got tired of swinging around in trees like his ancestors. He devised lifts, cranes and other mechanical devices with which to maneuver, many with more than mild success. In the last score of years manufacturers like Mobile Aerial Towers, Inc. have become interested in the climber's plight. Today, their powerful towers can effortlessly carry the "climber" to the uppermost branches in a matter of seconds.

To get a better insight on the operation and performance of these "one arm giants" we talked with Ralph E. Mudrack, city arborist assigned to the parks department of Ft. Wayne, Indiana, the home of Mobile Aerial Towers. With the factory located nearby we figured that here would be a "test situation under fire." Any small problem with a Hi-Ranger tower would be called immediately to the attention of MAT personnel.

Ralph was in Franke Park, a large city-owned park that comprises better than 355 acres, when we arrived. His men were trimming dead branches from a gigantic oak located near the zoo. Perched high above our heads and comfortably working from the confines of a Hi-Ranger bucket, tower operator Daniel Parisot elevated up and down and rotated in and around the tree just like a humming bird searching for nectar.

"That's what so fascinating about these towers," said Ralph, as he watched it move around in the tree. "There isn't anyplace that a man can't go in a tree with them. We have completely retired the rope and saddle. By the time a man can get a saddle on and coil his rope, a tower operator can have the job done."

Things have not always been that easy, however. Ralph described the situation several years ago when he had to combine several crews to take a tree down—the old way. "Trees were a major project," he said.

They are still a major project, but in another way. Ralph is responsible for the maintenance of about 100,000 trees between the curb and the sidewalk and throughout the parks. This is no small job when you consider there are roughly 450 miles of streets and 54 parks in the city of Ft. Wayne.

"We updated about the time Dutch Elm Disease became prevalent. Elms started to die and we needed the proper equipment to remove them and spray for the beetle," he said "We bought mist blower sprayers, wench and dump trucks and our first towers. This upgrading has continued and today in addition to the ground equipment we have five towers." (A sixth is on order.)

After the initial training sessions, tree crews quickly found many advantages to these new buckets. Some reported fewer cuts were necessary to top out a tree while others pointed to the time savings in not having to construct rigging. All operators could get over a tree faster, meaning increased trees covered in a day.

Ralph noticed that while towers haven't eliminated lifting and slipping injuries, accidents in trees have

(continued on page 32)

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IN A BUCKET *(from page 29)*

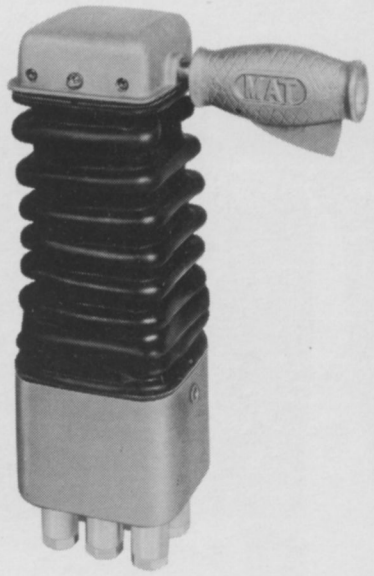
declined sharply. "We no longer have such injuries as cutting across the knees with saws, gouging in the sides, scrapes and scratches," he says.

Ralph's excellent in-tree safety record with Hi-Ranger towers is directly attributed to two things. He selects top men to operate the buckets. And all operators follow rigid safety rules. "When a man is in a bucket, he's comfortable. If not, he can move to a position where he is comfortable," he says. "Very few cuts are made from an uncomfortable position. We stress that if you have to bring the bucket down and move the truck, that's the thing to do."

Other safety rules include:

1. Don't reach from the bucket.
2. Stay in the bucket at all times.
3. Don't stand on top of the bucket.
4. Wear a safety harness at all times.
5. One man per bucket.
6. Don't use the bucket as a battering ram.
7. Wear a safety helmet (hard hat) at all times.
8. Visually and mechanically inspect tower daily.
9. Using a rope as a gin pole is out.
10. Always put outrigger booms out.

Perhaps the most popular item of the Hi-Ranger is the exclusive "3D" one-hand control. One arborist who climbed into the cockpit (bucket) for the first time likened the control to the "joy stick" on an old piper cub. Whatever direction you want to go, you move the lever thusly and the response is immediate. Move it up, move it down, push it forward, pull it back, twist it right, twist it left or combine control motions simultaneously. The platform moves precisely where you want it. Let go the handle for an instant and the automatic safety interlock "freezes" all movement.



JOY-STICK

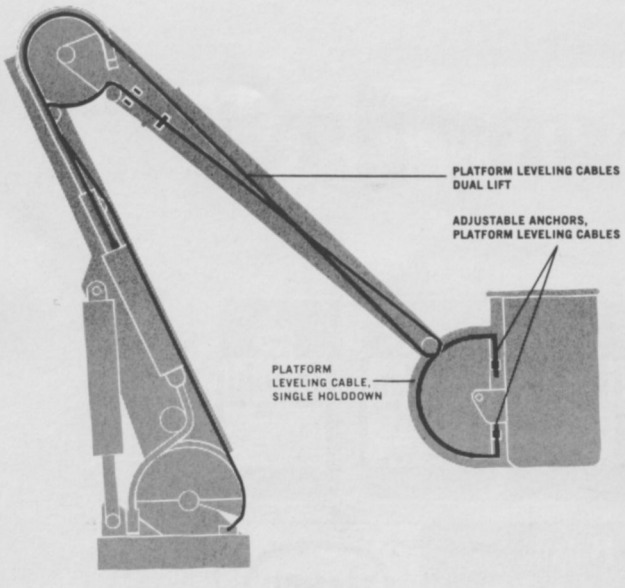
This is the exclusive "3D" control for operating the Hi-Ranger bucket. Editor operated it with ease the first time.

Mobile Aerial Towers technicians point out that the bucket is automatically self-leveling in a positive fashion. In other words, it will remain parallel to a tree all the way to the top if you want it to. Other buckets can only "kiss" the tree at some point, then reposition to "kiss" again. Arborists repeatedly say that this one feature stands out above others in this market.

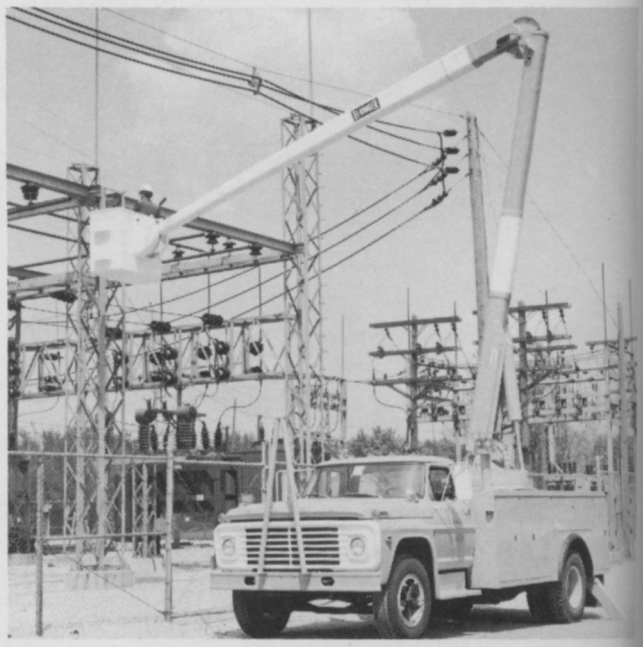
Another feature that Ralph likes is the fact that the bucket is positioned on the end of the tower, not to the side of it. "We've tried buckets mounted on the side," he says. "From one side it is fine but just try working from the other side. It's horrible! Ninety percent of our work is with trees between the sidewalk and the curb. You can't pull a tower into a resident's yard. You've got to have something that permits access to both sides of a tree equally. The bucket mounted on our Hi-Ranger towers will do that because it is attached to the end.

"So if you come on this side of the tree, you are right next to your work; if you go to the other side of the tree, you are right next to your work. You can come in and set right down in the crotches and do a cable job. You can literally put that bucket any place in a tree!"

During a busy season, Ralph will keep his towers on the go most of the time. "We figure we have be-


PLATFORM LEVELING CABLES DUAL LIFT
ADJUSTABLE ANCHORS, PLATFORM LEVELING CABLES
PLATFORM LEVELING CABLE, SINGLE HOLDDOWN

PLATFORM SELF-LEVELING SYSTEM: When upper and/or lower booms are elevated or lowered, the work platform (bucket) remains level by compensating action of the leveling cables system. This clever device keeps operator at right angles to the ground at all times.



Hi-Ranger towers can be used in utility line work, too. Note that white portions on the booms are constructed of fiberglass. Each tower must pass an electrical test of 150 thousand volts.

tween $18,000 and $22,000 invested in each tower," he says. To get a return on investment, towers must be operated regularly. Under normal conditions, a tower for this Hoosier arborist will be ready to trade in 10 to 12 years.

Because Ft. Wayne has many stately trees adjacent to the curb, workers often find utility wires to work around. Ralph says that his towers are highly insulated, particularly in the upper boom and bucket areas, decreasing the risk of an electrical shock. Nevertheless, "in training our people, we bring utility experts in to explain about certain wires, which ones to stay away from, and which ones you are relatively safe in working close to," he says.

Mobile Aerial Towers people second this move. Accordingly, every tower manufactured is subjected to an electrical test of 150 thousand volts. In addition, other rigid tests include a three times structural overload test and a one-and-a-half times tipping test.

At day's end we left Ralph knowing that as an arborist he is pleased with this type bucket. It fits in his operation and with his other equipment. His 35 employees find that the Hi-Ranger is not just another piece of machinery, but rather a tool needed to accomplish a job.

One point Ralph made over coffee during the day seems to fit here. 'We'd have to substantially increase our workforce in order to handle the number of trees we currently trim if we didn't have towers," he said. "We don't want to do that. We want to keep the high caliber men we have now. Mobile Aerial Towers have the kind of tower that we like better than any we've seen so far."

Colorful Tree Care Booket Offered By Davey

Growing public interest in planting and maintaining trees to help improve the environment led Davey Tree to expand and completely revise the "Davey Guide to Tree Beauty and Tree Care." The result is a new 36-page booklet on tree care designed with the homeowner in mind.

The new four-color illustrated edition provides technical information in layman's language to help homeowners determine the general health of their trees, provide for their care, and select the most suitable tree, locate and plant it properly.

The new booklet explains why tree care is necessary, and important in the effort to beautify our land. It explains the life functions of a tree, shows the layman how to recognize signs of trouble, and provides a calendar of tree care to indicate when work should be done.

How to plant small, bare-root trees, move large trees to home grounds, and protect trees from insect attack and disease are described and illustrated with charts and photographs.

How to select trees for shade, flowering or special effects, windbreaks and screens, and fall color is also covered, presenting lists of popular and new varieties, their height at maturity and other characteristics such as climatic zones, color of blossoms, and rate of growth.

Recommended "do's and don'ts" help the homeowner plan the best location for new trees, avoid common landscape mistakes, and create grounds that will increase in beauty and desirability.

The new booklet is offered at $1.00 per copy. Copies may be ordered by writing Davey Tree, Department 9C, Kent, Ohio 44240.

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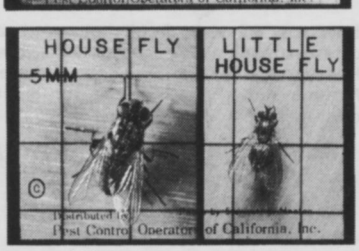

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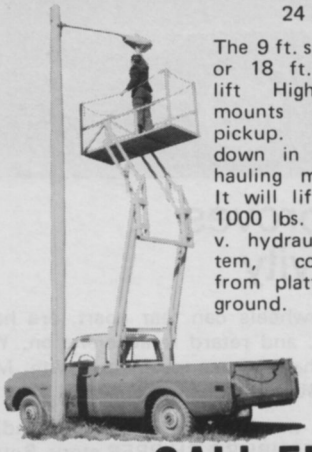

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Lawn And Turf Pests In Utah

By DR. WILLIAM D. BUCHANAN
Entomologist
Brigham Young University

In 1971 the lawns and turf in parts of Utah County, Utah had many brown spots develop in them that varied from a few inches in diameter to several feet.

Upon examination it was found that the grass roots were cut off just below the surface of the ground by a caterpillar that was less than one inch long. The caterpillars develop into an unattractive gray moth with a wing spread of about one inch.

The moth flies only short distances but stays about one to one and a half feet above the grass, and upon contact with a blade of grass crawls to the base of the plant.

The moth is known by the technical name of crambus probably *bonifatellus*.

Eggs are laid by the moths as it flies and also after it crawls to the base of the plant. The eggs hatch into caterpillars with several generations each season.

In the fall the caterpillars enclose themselves in silken cacoons that are covered with soil. They remain in the cacoon until early spring when the moths emerge and starts a new cycle.

Adults were observed in March 1972 during a period of unusual warm weather for the area. They stopped activity until after a cold period, and thousands of them are now active again.

Damage was prevented by the use of Chlordane emulsifiable concentrate at the rate of 5 tablespoons of the concentrate in one gallon of water and applied with a pump-up sprayer.

However several small spots developed before they were sprayed, and each case the grass grew over the damaged area. In all areas where pesticides were not applied the grass died in ever larger spots.

Biological agents were not observed. In several hundred caterpillars no parasites nor predatory insects were found. No harm was observed to birds, pets and wild life that visited areas that had been sprayed with chlordane.

Michigan Freeway Interchanges Site of Urban Tree Study

Trees along heavily traveled urban freeways take a beating from auto fumes, industrial and household pollutants and mist from salt used in winter maintenance.

Horticulturists at Michigan State University, cooperating with the Department of State Highways, have embarked on a study to find out which species of trees will thrive best along city highways traveled daily by many thousands of vehicles. Their findings will guide highway departments in Michigan and other states in their urban landscaping programs.

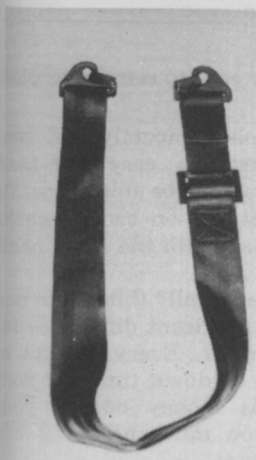
More than 1,000 trees of 28 species have been planted in three freeway interchanges near Detroit. Species range from Austrian pine and Norway spruce to horsechestnuts, honeylocusts and crabapples. White pine and other species known to be sensitive to urban pollutants also were planted as "controls."

The long-range goal is to beautify city freeways and other highways with large, healthy trees that will soften the severe lines formed by concrete and steel.

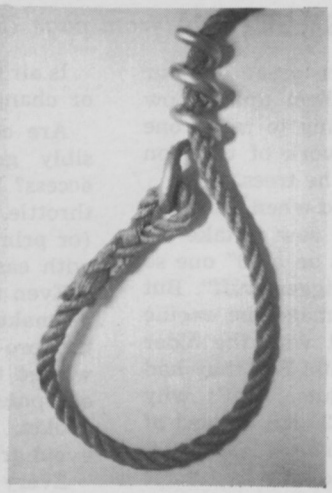
Dr. Harold Davidson, MSU professor of horticulture, will supervise the study. It is financed for the first year by a $20,000 grant from the Michigan Legislature as part of the annual state appropriation to the Agricultural Experiment Station at the University.

"The study is unique in at least two ways," Davidson said. "It is the first time in Michigan, and perhaps in the United States, that a research team has tried to find which trees are most tolerant to adverse conditions found in highway right-of-way in urban areas. He hopes the study will continue for at least three years.

In that period, horticulturists and Tim Chick, district forester for the State Highway Department, will check the trees regularly for growth rates, evidence of tolerance to salt mist and other pollutants, malformations and other signs of damage.



Climber's strap



Larry's Magic Knot

New Arborist Tools Called Simple And Clever

If you're a tree man who has often strained to tie a good clove or timber hitch onto a limb you could just barely reach or tried to untie a heavy chunk of wood from a rope that wouldn't quite reach the ground—or worse yet, get the knot out from under a big piece that was already on the ground, Larry's Magic Knot is great news.

At first look the Magic Knot just looks like a steel corkscrew with an eye end. Physically, it's just that it's just that *simple but what you can do with it is where the magic* comes in. Here are some of the comes in. Here are some of the tricks:

The Magic Knot enables even any amateur to "tie" a first rate non-slip timber hitch with one hand.

You can rig up a limb or tree for lowering without ever leaving the ground. You can easily untie a heavy piece hanging with all its weight still on the rope. No rope knot will do that. You can tie securely and untie easily, any tree limb with only one hand.

The Magic Knot is made for use with ½" or ¾" rope (Larry recommends ½" synthetic) and should be spliced right on the end of the rope. It sells for $5.95 postpaid and is currently available exclusively from Product Development International, 200 Sylvan Avenue, Rutledge, Pa. 19070.

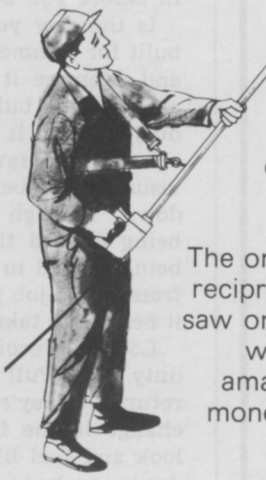
Relief for the headache and backache of tree men is on its way at last. No, it's not another miracle drug, but rather two small items that are big on convenience for all tree climbers.

Relief for the tree man's backache comes in the form of a unique new lightweight climbers tie-in strap. Using lightweight steel aircraft type end-fittings and adjuster bars, this nylon strap weighs only ten ounces as opposed to the four and five pound monstrous heavyweight climbing straps now in use. This lightweight addition to the trade is a comfortable constant companion to tree men who frequently need a temporary tie-in when changing tie-ins with their ropes or spiking on take-downs, etc., or for added comfort and stability when working in those difficult positions that send you home at night with cramps in your back. The Tree Man's Tie-In Strap sells for only $7.98.

For more details on the Tie-In Strap, Circle (720) on the reply card.

Electric Tree Surgeon

Pruning Saw



Reaches 15 feet to prune and cut clean without injury to bark. Easy way to prune for orchards, nurseries, parks, golf courses, estates, homes ...for all landscapers.

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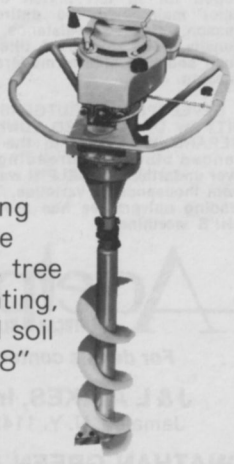

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CHAIN SAW SELECTION *(from page 15)*

lightweight ones are great but our boys are burning them up!" Know why? They are trying to make one small saw do the work of two (on the ground and in the trees).

First thing they do when they buy a super lightweight saw is take off the 12" bar and put on a 16" one so the saw will "cut bigger stuff". But what's supposed to make the *engine* bigger? They did it with the older original "lightweights! But they had more beef, more guts. That's why they weighed 18 or 20 lbs. instead of 6 or 8 lbs. Remember?

So while it's good not to hinder yourself with too much equipment, you can also out-cheap yourself by not having enough. The super lightweight should be an *addition* to your power saw strength, not a *replacement* for anything. Keep that in mind and yours will last a long, long time.

Your best guarantee of dependability in a power saw is what's built in before you buy it.

Is the saw you are about to buy built for commercial use? Pick it up and examine it closely. Some saws are just not built for rugged heavy duty use and it shows.

Look the saw over and try to visualize it being pulled up and down through tree branches or being carried thru heavy brush, or being jostled in the back of a truck from job to job year after year? Will it be able to take that kind of abuse?

Look the recoil starter over. Heavy duty cord? Pull it and test the spring return. (They're no small job to change in the field.) Does the unit look and feel like it will take hundreds, perhaps thousands, of starts without failure.

Are the spark plugs and ignition accessible yet safely tucked out of the way so they don't get knocked off by brush or branches?

Does the saw feel well balanced? Are the handles strong and compact with a wrap around configuration or are they somewhat frail looking or just sticking out waiting to be broken off? Examine them carefully. Are they easily replaceable or will you just about have to rebuild the saw?

Are there good handle grips? Oil and gas can make bare handles dangerously slippery.

Are gas and oil fill caps located in convenient places for quick fill up? Is gas fill *safely* located so spilled gasoline does not run right down on a hot muffler? (Speaking of mufflers, you should insist on a spark-arresting type of muffler.)

Is air filter easy to remove or clear or change?

Are controls compactly and sensibly grouped for easy one-hand access? You should be able to operate throttle, oiler, off-on switch, choke (or primer) all with the same hand, with ease.

Even these "small" things can and do make a significant difference for the pro-operator. Every minute of wasted time or down time for your equipment is money out of your pocket. If you *think* now you can avoid grief later.

Every year there are more saws and more new features to make the buyer's choice more exciting (and more complex) than ever. Of course, even the "best" saws will not have all of the best features because they vary from manufacturer to manufacturer. Here then is a run down of some of the features you will most likely be encountering in your search for the right saw:

AUTOMATIC OILING — means you don't have to pump oil manually. A good feature if you have manual oiling too. Most pro-jobs require lots of oiling for bar and chain. One bad thing about automatic oiling — you can run out of oil without realizing it.

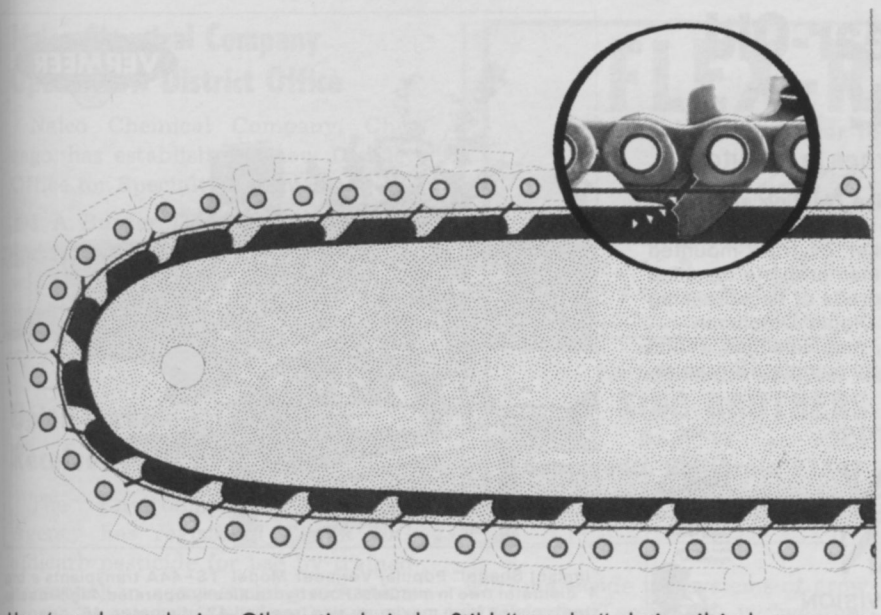
ANTI-VIBRATION (or vibration isolated) handles, etc. Hour after hour of chain saw use can numb the strongest of hands and tire out arm muscles. This feature is worth shopping around to find for the commercial user. Stihl saws are tops in this department.

COMPRESSION RELEASE — releases the compression in cylinders for easier (prevents saw from jerking around) starts. Certainly a convenience but no real big deal.

(See photo on page 383

SOLID STATE IGNITION — advanced type of ignition system which eliminates the need for break points and condenser. Lasts indefinitely but add expense to the saw and has not received as good a response as the manufacturers had hoped for.

PRIMER OR CHOKE — which is the best? There is honestly no general agreement amongst power saw users. A primer can give you first pull starts which you usually won't get with a choke. However, a choke is more versatile (you can give it half choke, quarter choke, etc.) and it is dependable. At least one major manufacturer now using primers is switching back to chokes in 1973. That should tell us something.



Here's a clever device. Oilamatic chain by Stihl "recycles" chain oil in bar grooves and carries it to rivets and sprocket.

SPIKE BARS give you improved leverage when cutting. Nice item but reduces effective bar length 1-2" not *really* necessary on direct drive saws.

SPARK ARRESTING MUFFLER — Prevents "live" sparks from getting out of the exhaust. You need one, period! They are very important if you work around dry brush, and who in this business doesn't. Some manufacturers don't seem to agree about just how important they are but most make them available — even if it's at added cost, which it should not be. They are required in all National and State forests and should be required on your jobs.

CHAINS — There are several new concepts in chains on the market worth looking for. Some chains have chrome plated cutters which definitely increase chain life. Stihl makes an "oil scooper" chain (Oilamatic) which picks up and reuses oil that has run down into the bar groove. Clever idea! Pioneer saws are now using the Sure-Guard chain that prevents dangerous saw kick-back when chain hits knots in wood, etc. A long needed and very welcome safeguard for saw users!

ROLLER BARS — The roller bar has been around for a while now and although it does reduce friction its not all that great according to many users I've queried. Its value is questionable on the high speed direct drive saws. Even on slower gear driven jobs, the roller end is easily bent, the bearings wear out and can get gunked up with dirt, etc. Not a feature worth paying more for, especially since most bar tips are hardened steel anyway.

AUTOMATIC CHAIN SHARPEN-

(continued on next page)

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Asplundh has been building chippers for over 25 years. Asplundh field crews put in over two million chipper hours a year. We know what the machine can do because we designed it for our own use, and we are the single largest user in the world. It has speeded brush removal time by 400% over the old tiresome hand method. And it has many advantages over other chippers too. Asplundh builds its machine to handle the bulkiest brush. Our chipper eats it up fast. And the faster you finish the job, the faster you can move to the next one. Chips are a valuable by-product used for fertilizer, mulch and stock bedding. One thing an Asplundh chipper won't do is give you a lot of maintenance headaches. Let us prove what our chipper will do. Write Asplundh for free literature or a demonstration, Asplundh Chipper Co., a division of Asplundh Tree Expert Co., 50 E. Hamilton Street, Chalfont, Pa. 18914.

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For More Details Circle (101) on Reply Card

CHAIN SAW SELECTION *(from page 37)*

ERS — in a word, forget it. They are a gimmick made for, and sold to, amateurs. They require a special chain (which, by the way, doesn't cut very well, even when sharp) and a built in sharpening stone, etc. They have no place in the field with pros.

SERVICE — The *place* you buy your new saw may be the most determining factor in your success or dissatisfaction with a power saw. The best made saw in the world is no better than some real dog, if it needs repair. (In fact, it's *worse* than a real dog if you can get good service on the dog.) **No saw is any better than the service behind it.**

Service on equipment is vital to the commercial operator.

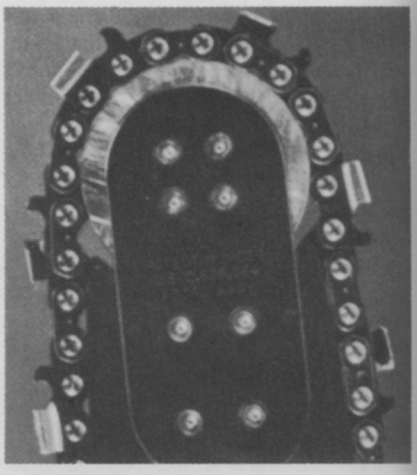
The place to buy a profesional power saw is at a profesional power saw dealer who has facilities, personnel and parts to repair your saw expertly and immediately when (no "ifs" about it, it will need service) it needs it.

In most cases "qualified" dealers *do not* include department stores, hardware stores, gas stations, mail-order houses and the like. No matter how well you like the dealer or how long you've known him or what kind of "discount" he's giving, the question you must ask yourself foremost, is: "What can he do for me when my saw needs service". (Authors note: A definition of good professional saw service you might expect, would be generally: in and out of the shop in one full working day except if it needs special parts (such as the frame, etc. in which case you should be able to borrow or reasonably rent a saw till yours is fixed.)

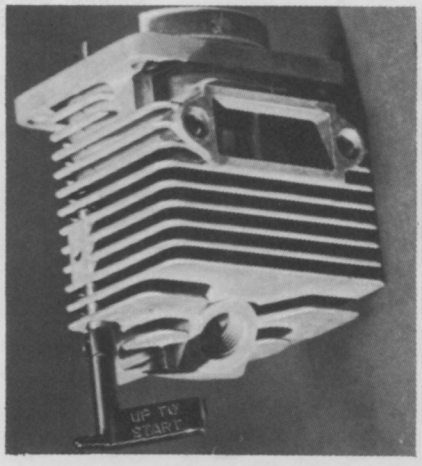
Once you have decided in your mind exactly what you NEED in a power saw and what features you want the most, and know off-hand, or have checked the yellow pages for, several qualified dealers, the matter of price becomes rather simple. Who has got what you want at the best price? Actually, it's almost, but not quite, that easy. There are a few things you should be willing to pay more for. Among them are:

1. The saw that meets your EXACT needs.

2. What you WANT. (If your kid wants a red wagon, that's what will make him happy. What YOU WANT will make you most happy.)



A roller nose bar tip has been introduced on many saws. It helps reduce drag and friction. However, value is questionable, especially on high-speed direct drive saws.



A compression release takes the compression out of the engine during starting, thus making the starter rope much easier to pull.

3. Convenience — A qualified dealer right around the corner is worth sacrificing a few bucks initial cost to have.

4. A dealer known for good service.

5. Safety features; such as spark arresters, Sure-Guard Chain and Stihl's auto-throttle lock. (Note: These features do not always cost more but they are *worth* extra money if they do.) You can't put a price on your safety or that of your workers.

6. A longer or more comprehensive guarantee. It usually indicates a better built saw.

So now, armed with some good information on how to choose it, you're ready to go get the deal of your life on a power saw. Happy hunting!

Nalco Chemical Company Opens New District Office

Nalco Chemical Company, Chicago, has established a new District Office for Specialty Chemicals.

J. A. Burger, District Manager, and J. A. Glantz, District Representative, will be located at 8627 Mayfield Road, Chesterland, Ohio 44026.

Union Carbide's Temik 10G Receives New EPA Label

The Environmental Protection Agency has registered Temik 10G aldicarb pesticide for use by trained personnel in commercial production of ornamental plants. The Federal registration is announced by Union Carbide Corporation. Temik 10G is a granular product that provides systemic control of a wide range of insects, mites and nematodes.

When applied to the soil, the active ingredient is absorbed rapidly by root systems and translocated to all parts of the plant, thus controlling attacking pests. As a material working inside the systems of growing plants, Temik 10G is "weatherproof," Union Carbide explained.

Pest control often lasts six weeks or more, and reduces the need for frequent foliar applications of other pesticides. Of interest to commercial growers is the fact that Temik 10G effectively controls resistant mites as well as other difficult-to-control pests. However, it is not cleared for use in the home or home garden, the company emphasized.

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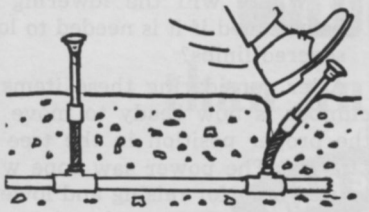

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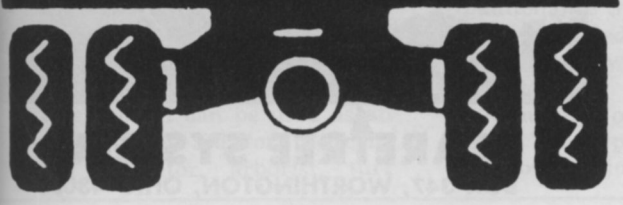
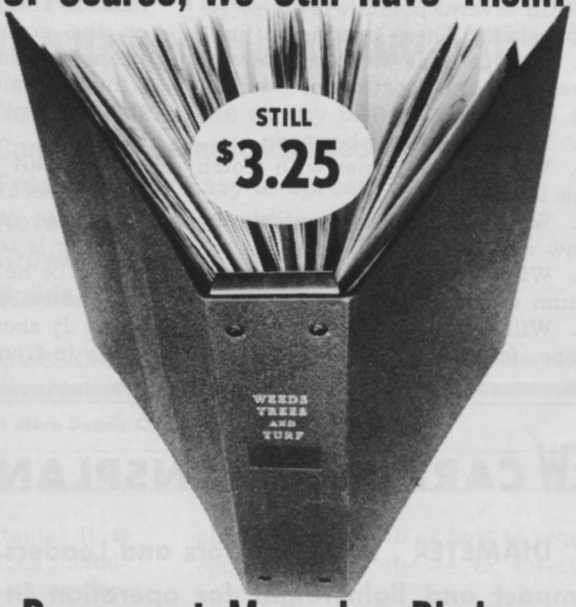


Of Course, We Still Have Them!



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POWER SAWS IN TREES *(from page 18)*

hitting the ground. The man on the ground was permanently disabled. The man who fell was only slightly injured and returned to work two days later.

I do not attempt to debate the cause of this accident. I point out only what can happen and note that this accident should not have occurred. I do use this to illustrate that saws used in trees are a hazard and special care much be exercised in their use.

Special safety rules wholly apart from those practiced on the ground must become routine with the professional trimmer. The use of a safety line on a light weight saw is as applicable as it was for the heavier saws. If for no other reason, today's direct drive saws obtain maximum power when the engine is operating at full throttle. Thus, the chain cuts much faster than older gear driven models, which by design cut slower and operated at lower revolutions per minute (rpm). Consequently, the chances of a saw getting out of control and causing an accident are greater.

Most arborists are aware that many trees can now be trimmed properly and completely with the power saw. And while this practice is gaining in popularity, there are still several points worthy of re-emphasizing. These include:

1. The general structure of the tree and the location of "wires," if any.
2. Where cuts will be made.
3. Where the trimmer with crotch his life line.
4. Where the safety line for the saw will be crotched.
5. Will the saw start with a minimum of effort on the ground?
6. Will any limbs cut require a rope for lowering or can they be cut so that they will fall safely to the ground?
7. Where will the lowering line be crotched if it is needed to lower severed limbs?

After considering these items the climber is now ready to move into the proper position in the tree and "tie in." The power saw rope which is used only for raising and lowering the saw and for no other job, must be placed in a proper position to insure the trimmer's safety and the safety of the saw.

Tie the rope to the saw at a balancing point, preferably on the cross-over on the top handle. A clove-hitch with a half knot is usually satisfactory. Once tied, the saw is ready to be raised to the trimmer in the tree. The rope handler must work in conjunction with the trimmer from now until the saw is relowered to the ground. The trimmer should be positioned so he can help guide the saw while it is being raised so as not to hit the trunk or limbs of the tree or other objects that might be present. The trimmer should have in advance, with his hand saw, cleared out the best suitable area for raising the saw into the tree.

The position of the rope is to allow the saw to swing free, and away from the trimmer and limb being removed. The prime duty of the man on the ground is to stay alert in keeping a taunt line *except* when the trimmer is making a cut; At this time the trimmer holds the full weight of the saw.

Using all safety precautions including secured hand lines, trimmer in a safe position and others, the trimmer is ready to start the saw. It should be held steady with one hand and the starter rope pulled with the other. It should always be held directly in front of the operator and in a level position when possible. Always be sure the trimmer has visual contact with a man on the ground so hand signals can be given in case something unexpected occurs.

Here are a few cuts that can be made by a power saw in a tree. 1. The undercut—for pulling a limb up and away from objects. 2. Top cut — A limb cut through from on top will hinge over but should have a snug rope on it and should also be finished by a hand saw. 3. Undercut and top cut — An undercut approximately one-third through and cut through from the top will let the limb fall free.

Always remember, when the posibility of the saw rail being pinched or any unsafe situation exists, finish the cut with a hand saw.

In our operation, we also consider the following points where chain saws are involved:

1. Before operating a power saw in a tree, the trimmer must have considerable experience with chain saws on the ground.
2. The saw must be kept in good mechanical condition with a sharp and properly filed chain.
3. The same kind of cuts are made with power saws that are made with hand saws.
   A. When cutting be careful not to pinch the chain.
   B. When it is advisable to use a hand saw to complete a cut, move power saw to a safe location.
4. One man saws should be used for making large cuts and final flush cuts. *There should be enough work to warrant a power saw.*
5. When power saw is no longer needed in the tree, the man in the tree will assist the man on the ground in lowering the saw.
6. Saws should never be raised or lowered with engine running.
7. The gas tank must not be filled while saw is in tree.

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8. Power saws should be operated in a horizontal position when possible.

9. Be careful of burns from hot muffler or cylinder when using gasoline saws.

10. Make sure that goggles are in place.

11. When a hazard exists while using a power saw, the cut should be completed by hand.

I have noted that a power saw used in a tree should be supported by a safety rope. Exceptions to this rule are discussed wherever arborists gather. A 75 foot dead poplar with few side branches located between two houses and inaccessible by a bucket . . . a six pound saw attached to a belt is only a small burden . . . the trimmer must maneuver two ropes instead of his one life line—all are good reasons why this rule should be abolished.

But the fact remains that safety to the trimmer is a matter of life and death. Exceptions to safety are a prime cause of accidents. The few extra minutes required to re-evaluate the situation, use a hand saw to make a cut or hoist a saw into a tree are a great reward over losing an arm, leg or possibly a life.

In a tree, a saw on a safety or extra line attended by a man on the ground can be held long enough to be shut off and then released so that both hands are free to allow the climber a better control of his swing or fall. Without the safety line the trimmer must make his initial move using his feet and only one hand. Should this be a defensive move, the climber may not have time to execute it properly and an accident may result.

The professional trimmer is one which requires safety, skill, dexterity, agility and superior physical ability. Why limit any of these attributes through an accident. After all, how many one arm or one leg climbers do you know in the business today?

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BOOK REVIEW

HOME LAWN CARE, 145 QUESTIONS AND ANSWERS; by Melvin J. Robey, superintendent of athletic facilities at Purdue University.

The booklet is soft cover, 6x9 inches in size and is illustrated throughout. It has 42 pages. Price is $1.00 plus 25¢ for special handling and mailing.

This booklet can be used as an excellent sales aid for the contract applicator, arborist, turf specialists and consultants. It is divided into nine sections including information on facts on fertilizers and their use, watering your lawn, mowing practices, lawn diseases, insect control and maintenance tips. Questions asked are presented informally and answers are written in non-technical terms.

A number of charts, drawings, tables and pictures show the homeowner just how to accomplish a specific job or how to recognize certain disease or insect problems.

The non-technical approach Robey presents makes this booklet a good "leave with" item. The section on maintenance tips is one of the best presentations in print today.

Orders should be sent to HOME LAWN CARE, P. O. Box 2126, West Lafayette, Indiana 47906.

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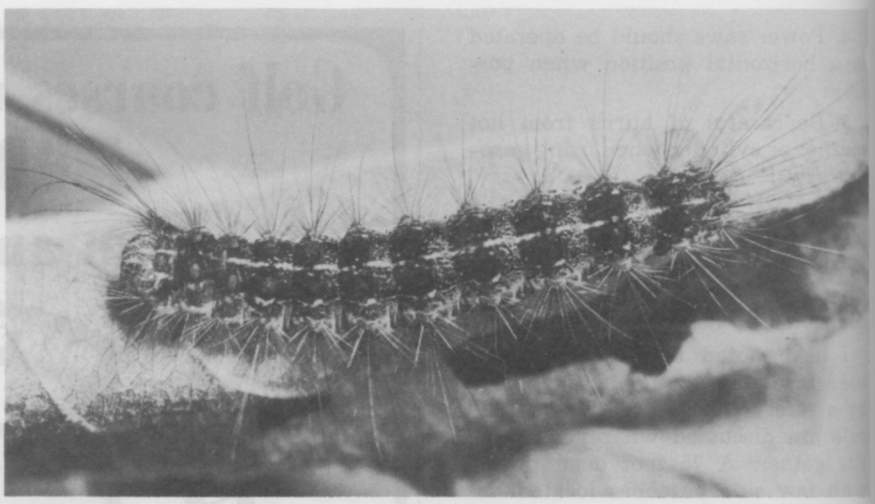


Here's a close-up of the fellow causing all the problems. Entomologists stress that the time to control these pests is when larvae first appear. Gypsy moth larvae have been found in nine New England and eastern states. Imidan sprays have been effective in controlling the spread of the moth.

Imidan Deals Decisive Blow To Gypsy Moth

Imidan, introduced by Stauffer Chemical Company as the latest insecticide entry in the war against gypsy moths and elm spanworms, is by all early reports proving itself a strong contender against these voracious pests.

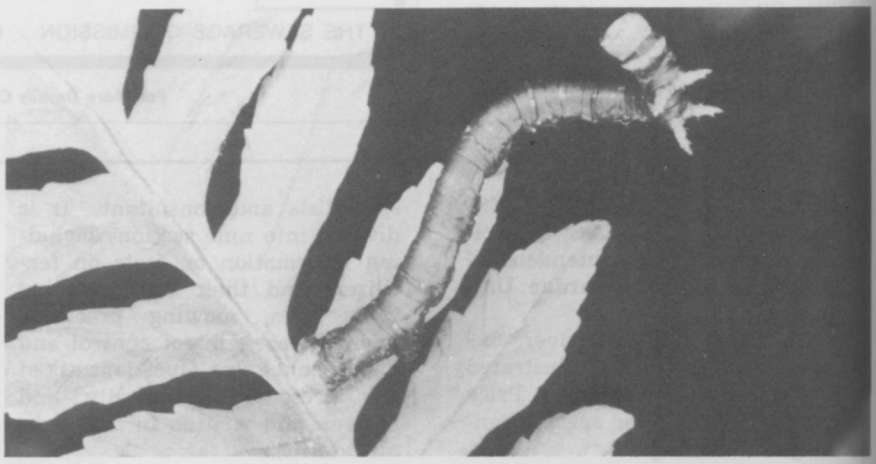
It is attracting wide interest for two principal reasons: effective control of both gypsy moth and spanworms in shade trees, and, its ecological advantages.

According to Stauffer, Imidan insecticide is biodegradable and has a lower order of toxicity to man and animals than most other commonly used organophosphorus insecticides. It doesn't injure ivy and Virginia creeper and it remains active twice as long — about four weeks — as other sprays often used to suppress gypsy moths in recent seasons. It's also relatively non-toxic to beneficial insects including various species of predator mites, ladybug beetles, and flies.

A typical field report on Imidan's first season against gypsy moth and spanworm comes from arborist Le Roy Parr of Massapequa, Long Island, N.Y.

"We used Imidan early on an experimental basis and found it gave excellent control of gypsy moth and also cleared up aphids and canker-worm infestations as well," Parr says. "This year, the first under the new label, we used even more of it and it has continued to provide first-rate results."

According to Parr, gypsy moth in-



This is the elm spanworm. Although not as highly publicized as the gypsy moth, it nevertheless can bring destruction to tree foliage. Imidan insecticide has been used successfully to control its activities. The product has a low order of toxicity to man and animals yet remains active up to four weeks.

festations were especially severe this season in his area. "But in many cases we were able to contain the problem with only one spray," he reports. "What's more, we've had no occurrences of spray injuring other trees — even ornamentals and woody evergreens have been exposed with no problems.

"Imidan is one of the safest materials we have ever used and it controls some of our worst pests," Parr says. "It also has the extra advantage of a longer control period."

One of the things Parr likes best about Imidan is that it helps him avoid retracing his steps. "In other years we might have to spray some locations several times to control different pests," he says. "Now we can often contain several potential problems with one application of Imidan. In a sense, this means less work, but more jobs — it is definitely helping expand our business and boost profits."

Environmental factors also affect Parr's business. "We originally turned to Imidan when it had the experimental label three years ago for just this reason," he reports. "Pesticides were being blamed for everything, so we wanted to look at some of the newer materials that claimed to be safer in the environment.

"Our experience has proved this out to our satisfaction," Parr states. "It's certainly safe to handle on a day-to-day basis, it's certainly safer to animal life, and it protects some of the beneficial predators that help us do a better job."

Arborist Le Roy Parr (right) sets up his spray schedule for the day along side of his spray truck. This season has been one of Parr's busiest.

Gypsy moth caterpillars feast on leaves of trees and forests alike — their voracity increasing the forest fire hazard and degrading home site values.

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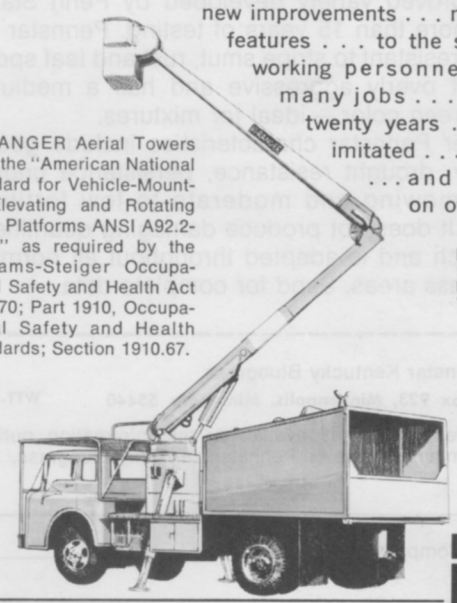

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— industry people on the move —

George G. Schaaf, appointed sales manager for Nunes Turfgrass Nurseries. He will coordinate the statewide sales efforts for the company. He replaces the late Edward J. Mutoza who served in that capacity since 1963.

* * *

Joseph R. Morin, named corporate safety manager of The Toro Company, a new post. **John T. Singleton** and **Joseph Sarkisian,** are promoted to golf course sales manager and northeast district manager, respectively. **John C. Norton,** group vice president for Toro, has been elected to the board of directors of Erickson Corporation.

* * *

Charles L. Walker, appointed vice president of sales for Organic Laboratories, Inc., Houston, Tex. He will be responsible for distribution, merchandising and marketing of Energizer, a concentrated liquid humus.

* * *

Stephen C. Bunce becomes sales representative for R. H. Bogle Company, Alexandria, Va.

* * *

R. C. Slater, promoted to director of sales for Wayne Manufacturing Co. He has been with the company for 13 years.

* * *

William C. Soellner, promoted to manager of branch operations at Bolens Division, FMC Corporation.

* * *

Thomas N. O'Brien, named to the newly created position of manager of market services for Warner Electric Brake & Clutch Co.

* * *

Allen E. Behn becomes operations manager in the chemicals manufacturing division of Vistron Corporation, a subsidiary of The Standard Oil Company (Ohio).

* * *

Robert S. Toth, named product manager for preharvest and aquatic chemical marketing and sales efforts of six autonomous operational centers for Agchem-Decco Division of Pennwalt Corporation.

* * *

Erwin C. Brekelbaum, elected vice president, manufacturing; **Austin G. Skromme,** elected vice president, engineering; **Charles W. Walton,** vice president, general counsel. All are new executives with Koehring, Milwaukee, Wisc.

* * *

Dr. Dale E. Wolf, becomes director of agrichemicals marketing division in the Du Pont Company's biochemicals department. He succeeds **Arthur M. Cole** who has elected to retire after 35 years with the company. Dr. Wolf will direct the marketing activities, both national and international, for all Du Pont agrichemicals including a growing line of Tersan turf products and industrial and non-crop herbicides.

* * *

David Rose appointed treasurer and corporate controller of Environmental Industries, Inc. He will head up all accounting and financial policies of the company.

* * *

Harry C. Lusk, named sales and marketing manager for Allis-Chalmers Corp. He succeeds **Roy W. Uelner,** general manager, who recently held the post. Lusk will be responsible for all divisional machinery and parts sales, marketing services and field service operations.

* * *

Joel Power becomes supervisor for public relations of American Oil Company's eastern area. He will operate from the company's Atlanta office.

Debris Management Machines Latest In Toro Line

The Toro Company has introduced a new line of debris-management machines for the ecologically-minded householder.

According to David T. McLaughlin, president of Toro, the widespread ban on open burning of leaves and other lawn debris, the spiraling costs of trash removal, and the growth of interest in recycling materials have combined to build a total market potential for these machines of over 7 million households.

The new Toro line includes: Shredder, either 3½ hp or 5 hp models, to reduce debris to a fine, pulverized state, ready for composting or easy disposal; Vacuum, to pick up debris in a clean 30-inch-wide sweep; Blower, to clean out shrubbery in the spring and pile leaves in rows in the fall. An extensive hose and bag kit convert the Blower to a vacuum for quick pickup.

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We plant the ship which will cross the sea.
We plant the mast to carry the sails;
We plant the planks to withstand the gales,
The keel, the keelson, and beam and knee;
We plant the ship when we plant the tree.

What do we plant when we plant the tree?
We plant the houses for you and me.
We plant the rafters, the shingles, the floors,
We plant the studding, the lath, the doors,
The beams and siding, all parts that be;
We plant the house when we plant the tree.

What do we plant when we plant the tree?
A thousand things that we daily see;
We plant the spire that outtowers the crag,
We plant the staff for our country's flag,
We plant the shade, from the hot sun free;
We plant all these when we plant the tree.

(Thanks, Henry . . . Ed.)

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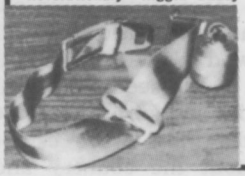

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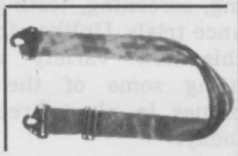

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Birth Of A Bluegrass

Much of the development work for Adelphi bluegrass was accomplished in fields like this one at Adelphia Breeding Station, Rutgers University. Here, bluegrass candidates are screened for favorable characteristics.

THE introduction to the turf industry of a new bluegrass named Adelphi Kentucky Bluegrass climaxes many years of plant breeding, screening, testing and performance trials. Unlike other bluegrasses, this new variety was developed using some of the newest techniques in plant breeding available today.

The development of Adelphi can be traced to nearly a decade ago to Rutgers University. Dr. C. Reed Funk, turf plant breeder, and Dr. Jerry Pepin, who then was a student, applied the practice of controlled cross breeding of selected Kentucky Bluegrass parent plants. The uniqueness of this work becomes apparent when you realize that Kentucky Bluegrass is basically asexually reproduced. Nevertheless, these researchers selected plants having most of the features desired in turf.

Strong characteristics were picked over weak features; high resistance to disease was genetically implanted; and, a superior seed was developed.

Following this initial laboratory breeding, seed was sown at several locations both in rows and in plots. Abnormalities were carefully rogued out and remaining seed was harvested. The process was then repeated. The result was many new bluegrasses "man created" as a result of man's first application of controlled parentage breeding in the Kentucky Bluegrass field culminating in the production of commercially usable varieties.

Dr. Pepin kept a set of comprehensive notes rating each of these new bluegrasses over a five-year period. Comparisons were made against existing known and established varieties. One new bluegrass, FS-200, consistently came out on top. Further evaluation of this bluegrass showed it's superior qualities. Samples of the seed were sent to 14 universities and several private testing grounds. Plots were established throughout the country and comparisons were made.

At this point, it appears that the genealogy of Adelphi can be traced to seed plots and performance tests. Like chemical candidates, seed varieties must pass rigid tests over many seasons and in many soil types before final introduction can be made into the commercial market.

While Adelphi was tested in many tests, one of the early problems dealt with getting sufficient seed to conduct these tests. Large-scale testing requires a quantity of seed. With the basic research complete, interested researchers now turned to commercial interests for further testing on large-scale plots.

Under a cooperative agreement between Drs. Funk, Engel, Battle,

Industry Comments On Adelphi . . .

Richard Browne, greenskeeper, Inwood Country Club . . . Adelphi is a low growing, attractive, sturdy variety. It's dark color and the tightly knit turf it forms are real attributes. The color stayed green longer into the fall and it greened up earlier in spring than the other grasses on my course. It's hardy blade makes it perfect for tees and fairways as it gives a much better ball lie. Dollar Spot hit surrounding bentgrass but none appeared on the Adelphi even though I did not apply any fungicide. . . .

Leonard DeLalio and Al Stattel, president and manager (respectively) Delalio Sod Farms. . . . Adelphi appears more vigorous in establishing turf. Color stayed dark green well into the fall and greened up earlier in the spring. The low growing characteristic of this grass gives it an attractive appearance, ideally suited for fine lawns. . . .

Dick McGovern, partner, McGovern Sod Farms. . . . The feature of Adelphi which is most obvious and outstanding is it's deep dark green color compared to other varieties we use. This in itself makes it ideal for us as a sod grower. It also has desirable growing characteristics. A vigorous rhizome and tiller growth make it an unusually good grass for sod production from the lifting and handling standpoint. We haven't noticed any diseases on the Adelphi which usually crop up on the other varieties we are using. We think Adelphi is another big winner. . . .

Maclinn and Hess at Rutgers University and J. & L. Adikes, Inc. of Jamaica, N. Y., a 117-year-old firm, this bluegrass variety would undergo further evaluation. A marketing agreement would follow if the variety turned out to be adapted to mass production.

The Adikes firm had been following the breeding program and had shown interested in conducting production evaluation trials. Working with Dr. Pepin, vice-president Robert A. Russell selected the highest performing candidate, FS-200M or P-69 as it was known by this time.

Being a marketing rather than a production firm, Adikes contracted with Jacklin Seed Co., Inc. Dishman, Wash. to accomplish production trials. Seed and plugs as well as several thousand plants started in a greenhouse were shipped to the west coast.

Here, careful site selection and grower performance consisting of field history over the past seven years, soil make-up, distance to other bluegrass plantings, grower management and others were taken into consideration. The result was a site in the Orchard Prairie section of the Spokane foothills farmed by Dave Gramlow.

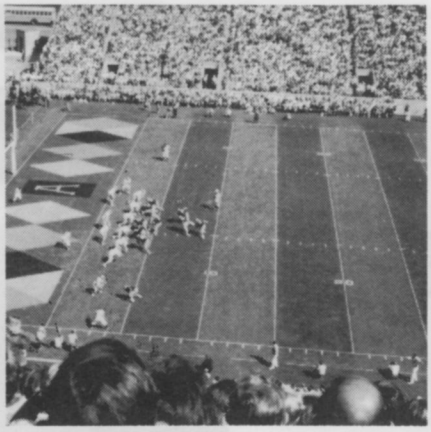
The field was divided into three sections. Breeder or mother plants taken from tillers were placed in one part; greenhouse grown plants in another; and seed supplied by Rutgers comprised the final section. In addition, an adjacent field was seeded in order to supply enough seed for trial plantings in the east and other areas.

Similar evaluations and rouging out as in research tests but on a larger scale were accomplished during the growing season.

Concurrently, a number of small plantings were established in the east. One of these was located on a tee at the Nassau Country Club on Long Island, N. Y. After three years, greenskeeper Charles Brett says, "I planted Adelphi in 1969 and have maintained it at ½-inch to ¾-inch cut. Three pounds of nitrogen and three treatments of fungicides are applied yearly. The deep, dark green color through the year naturally caught my eye first as well as the denseness and manner in which the variety spreads.

"Dollar spot was very heavy in surrounding bentgrass but none appeared in the Adelphi. The stiffer blade of Adelphi gives the ball a better set-up, making it an ideal grass for tees and fairways," he concludes.

Others also report that Adelphi has a high resistance to leafspot (Helminthosporium spp.).



This is Mitchie Stadium, West Point. Note the possible use for the darker Adelphi, caused here by reversal of the mowing direction.

Dr. Kenyon Payne of Michigan State University says, "It appears to us that Adelphi has good resistance to leafspot, excellent color and appearance and therefore should have an excellent potential as a bluegrass variety. It has also shown in our test to have good resistance to snowmold. We have found it to be an excellent performer."

Harvest at the Gramlow production facility indicated that Adelphi warranted even larger scale production. Following marketing agreements, production agreements and patent issuance, Adelphi is now available for commercial sale.

Dr. C. Reed Funk of Rutgers University inspects a row of Adelphi Kentucky Bluegrass placed on 36 inch centers rather than the usual 30 inch spacings. Note tightly-knit growth.

The birth of a bluegrass may be a long and complicated route. Many hundreds, no thousands, of candidates are screened before a determination can be made. Adelphi has literally "passed the test" and Adikes believes a winner is now available.

Heals wounds; prevents decay

Cabot's Tree Healing Paint is a carefully prepared bituminous paint for protecting live wood and preventing decay. Leading arborists and foresters have been using it for almost half a century. Here are the reasons why:

- **ideal for trees, shrubbery, etc.; seals, heals wounds, cuts, broken limbs, pruning abrasions.**
- **stimulates growth of new bark**
- **apply with brush or spray; produces a black, tough, elastic, quick-drying coating.**
- **excludes moisture; stops rot; prevents evaporation of sap**
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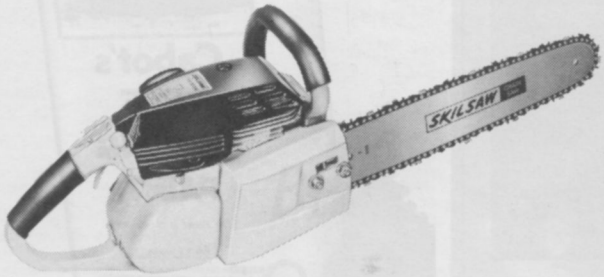
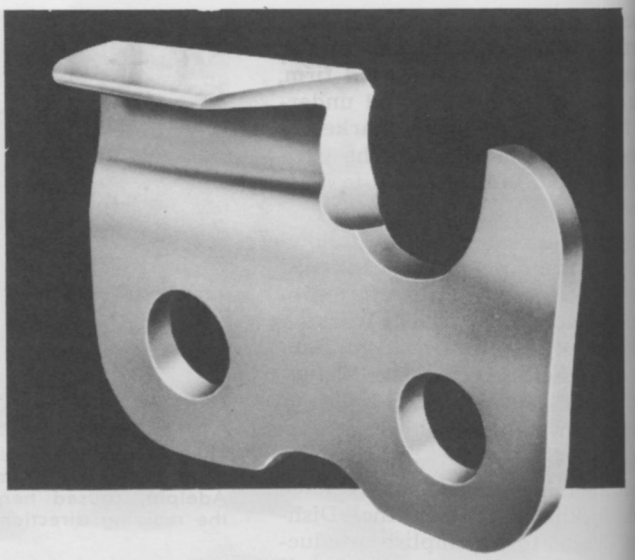


GAS POWERED CHAIN SAW: Skil Corporation, Chicago, Ill.

Get the extra stamina needed for day-long cutting with this model 1645 chain saw. Lightweight in design yet built for the most rugged use, this saw comes with a 4.2 cu. inch engine. It handles a 16 inch bar and chain with ease. Unit includes a special automatic oiler that feeds oil as required plus a manual oiler to pump extra oil in tougher cutting situations. A fuel primer provides fast starts. Saw is well balanced for easy handling even with a bar up to 24 inches in length. Tool weight is 16 pounds. For more details, circle (705) on the reply card.



NEW DESIGN: Sabre Saw Chain, Inc., Lewiston, N.Y.

Users of 2001 saw chain will quickly agree that this new configuration gives the quickest and most efficient cuts yet. Gone are the square cutting corner that contributes to rivet popping and cutter top plate breakage. The new shape is a working corner that is thinner but maintains the speed advantage of the square corner design. Speed is gained because less force is required to pull a thinner cutting edge through the wood fibers. Chain section also has reduced distance between curring force concentration point and rivet head. This keeps breaks and pops to a minimum. For more details, circle (706) on the reader card.

N-BAR FLOATING BARRIER SYSTEM: Sea Guard, Inc., New Castle, Del.

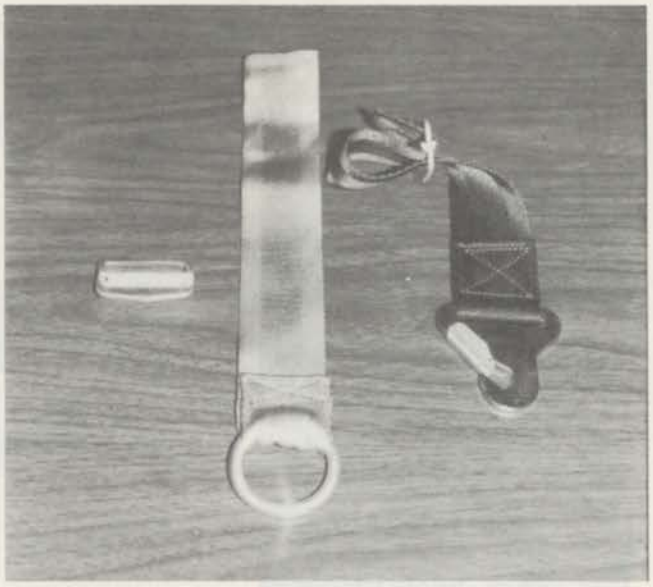
Restrain unwanted vegetation with this clever device that is non-polluting, non-corrosive and ecologically acceptable. Barriers permit passage of water and conform to wave and wind action, but will screen out most solids. Combines the features of a floating boom and an underwater fence. It is constructed of 50 foot lengths of plastic coated metal mesh, 4 feet tall. Rises of polyethylene pipe are attached using nylon tie-wraps. An inflatable rubber boom protected with a sleeve of polyester fabric coated with Hypalon synthetic rubber extends the length of the unit. Company also makes C-Bar, an oil containment barrier. For more details, circle (707) on the reply card.

KWIK KUT SAW: Limb Lopper, Santa Fe Springs, Calif.

Here's a power saw line that is built for performance. Currently produced in electric models only, these saws are designed for easy reach. They are light weight but feature heavy duty metal parts. Saw operates nearly twice as fast as any on the market today. Two heavy and light duty models are available. Sorry fellas, the girl doesn't go with the saw. For more details, circle (708) on the reply card.

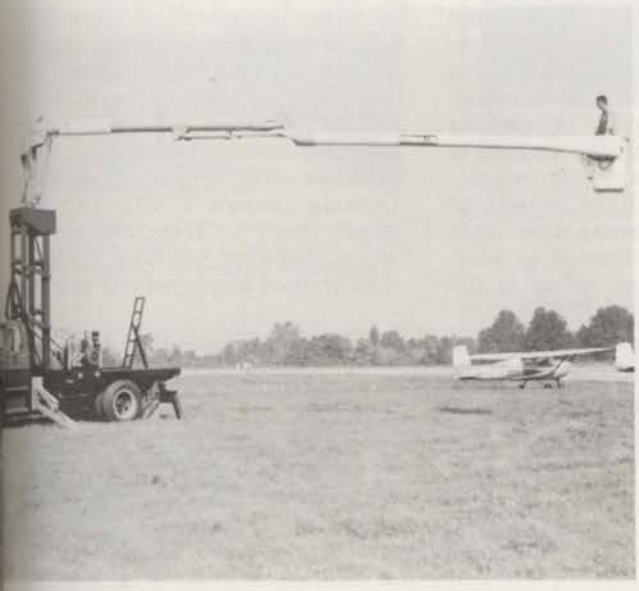
KOOL-GRIND: Granberg Industries, Richmond, Calif.

Simply hold stick to a grinding wheel for a second and you'll quickly notice how much cooler and faster you sharpen. Kool-Grind coats and lubricates grinding wheels, prevents clogging and glazing, and increases grinding wheel life. Comes in a handy stick form. For more details, circle (709) on the reply card.



UNIVERSAL POWER SAW HOLDER:
Product Development International, Rutledge, Pa.

Tired of fussing and fuming with make-shift hook-ups to hold your lightweight power saws to your belt or saddle? This holder attaches any saw securely to any saddle or belt in seconds. Made of nylon webbing and a unique slide-bar adapter, gadget easily holds up to 500 pounds. It is instantly interchangeable from saw to saw or even for use in holding other tools. Available with a snap hook or a 2 inch steel ring. Holder is adjustable from 3 to 14 inches and can be hooked up with ease just about any place on the saw that you want it. Weight is six ounces. For more details, circle (710) on the reply card.



ALPINE SERIES LIFTS: Skyworker Corporation, Delaware, Ohio

Boom up to 62 feet with this Model 12-1045 unit. That's about 12 feet more than other units of comparable size. How does it do it? Boom is mounted on a specially engineered hydraulically powered elevating platform. Alpine life is equipped with two sets of outriggers to insure total stability when boom is fully extended in a horizontal or vertical position. Three accessible control levers are installed at the work platform and protected by a molded fibre glass reinforced plastic guard. The unique design of the unit makes possible a much shorter overall stowed length in proportion to the maximum work height. For more details, circle (711) on the reply card.

HEAVY DUTY UTILITY BODIES:
Markel Electric Products Co., Inc., Buffalo, N.Y.

These utility bodies are designed for truck cab/chassis from 1 ton to 2½ tons. Compartments house hose reels, chemical pump-tank apparatus and associated gear. More and heavier steel is used throughout the all-welded bodies to permit the units to accommodate the addition of heavy accessory equipment. Bodies are thoroughly rust resistant. Seams and welds are zinc treated. The unit can be customized by adding overhead ladder carriers, rear bumper with pintle hook. Interior shelving is standard in all Morrison Utility Bodies. For more details, circle (712) on the reply card.

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Tree maintenance trucks are kept clean both inside and out. Equipment is painted to keep it look in near new condition. Personnel wear protective gear and neat, clean uniforms. Author Bell believes that the small items go a long way in promoting a favorable public relations image.

SELLING A TREE PROGRAM *(from page 23)*

Promoting an interest in street trees can be accomplished in many ways. Certainly, the person in charge or some of his subordinates should be active in various service organizations, garden clubs, and plant societies and be available to give slide-illustrated talks outlining the aims and goals of the program. Another effective means of reaching the public is through the agency of the local newspaper with regular articles covering all the aspects of tree care. I have found that most people are truly interested in what we are doing, if those of us in the field will take the time to tell them about it.

It goes without saying that well-trained personnel are essential, but it should be noted that top-rated tree men are scarce on today's market, with the commercial arborists having the edge in the hiring field because they are able to pay higher salaries than most government agencies can provide. This factor makes comprehensive in-service training courses a vital part of a street tree program. Within our city's operation we have found the well-trained employee not only does

When spraying of city trees is scheduled, property owners are notified and autos are removed from curbside. Trained personnel can sell a tree care program through their daily contact with the public. Each man working as a team with others can accomplish more work in less time.

a better job, but his interest in his work increases as his knowledge broadens.

Coupled with a professional image must be the appearance of the work crews. I know of no other municipal operation more in the public's view than ours, and for this reason I believe the appearance of our personnel is very important. Several years ago we were successful in selling management the idea of furnishing uniforms for our men. This has proven to be a good public relations factor and additionally has boosted employee morale.

While the appearance of the employee is important, so is the condition of the equipment they use on the streets. I have seen instances, as I'm sure most people have, of a banged-up, dirty truck and a battered chipper working on a street, and even if the men are doing a perfect job from an arboricultural point of view, onlookers cannot be

The right tree in the right place. This Orchid tree makes the total look of the street pleasing to nearby residents.

impressed with the operation. Clean, well-kept equipment is one of the best selling tools you can use.

Work procedures are important. For years our crews started work at 7:30 a.m. and quit at 4:00 p.m. This meant the tree trimmers and the brush men all got to the job at the same time with the latter standing around with nothing to do until the trimmers had finished the first tree. Then one day a tree trimmer approached me with the suggestion that the tree trimmers start work half-an-hour earlier than the brush men. I adopted his idea, and now when the brush men arrive on the job there is brush waiting for them to clear; and because the brush men are on the job half-an-hour after the trimmers quit this means the trimming occupies a full day and no longer has to be stopped in time to allow all the brush to be picked up.

Finally, I believe we should place additional emphasis on professionalism. We would all agree that competent, well-informed first line supervision is absolutely essential to a smooth-running organization, however, the caliber of the work force directed is just as important. The employees wielding the tools are themselves the "tools" by which administrators "finish" their jobs. The quality of a finished job reflect its management.

"Selling the City on the need for trees" is primarly a matter of selling yourself, your staff, and your program. Once this is done and the people within your jurisdiction are aware of your program and its goals, they will be convinced that more and better trees planted along their streets is a must. Once these people are behind you it will be amazing how much easier and more satisfying your job will become.

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For more than 115 years Mitts & Merrill has been making specialized machinery for industry. A major part of our business is equipment to reduce scrap and waste. This experience is incorporated into design features on our brush chippers that result in higher efficiency and longer, trouble-free service for you. Only Mitts & Merrill brush chippers offer features like these:

Staggered knife pattern for smoother cutting action. Mounted on an all-steel cylinder that, even without an external flywheel, is heaviest in the industry. Each cylinder revolution gives more cuts, produces smaller chips of uniform size. Self-adjusting knives are reversible; give twice the service between sharpening.

Optional torque converter isolates engine and transmission from cutting shock to minimize maintenance. Makes operation virtually fully automatic; increases operator productive time. Available on all models.

Plus...

• **Positive safety-lock pin** for greater operator safety • **Swing-away, folding feed chute** protects cutting chamber; allows instant access and increases maneuverability • **Heavy duty construction** includes coil spring, torsion-type suspension, and box tubular steel frame.

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Acquisition Of David Brown Announced By Tenneco

Tenneco Inc. has announced an agreement to acquire David Brown Tractors Ltd., a subsidiary of The David Brown Corporation Ltd., England.

The announcement, issued jointly by N. W. Freeman, chairman and president of Tenneco, and Sir David Brown, chairman of The David Brown Corporation Ltd., is subject to necessary approvals by the British Government. It calls for David Brown Tractors Ltd. to become an operating division of J I Case Company, a Racine, Wisconsin based subsidiary of Tenneco. The David Brown Tractors Division will be staffed and managed by the present David Brown personnel and management and will be directly responsible to the president of Case.

"It has been the policy of Tenneco to become associated with companies in which we see good product, good management and a potential for future growth," Freeman said. "We see these present in the David Brown Tractor organization."

David Brown presently employs approximately 3,500 people at its two farm machinery plants which cover about 1.5 million square feet. There are an additional 600 people in various subsidiary marketing companies throughout the world. Case employs about 14,000 people world-wide.

L. V. Gallagher, who has been managing director for David Brown and will continue in this capacity stated: "I can see nothing but good to come from our new association with Tenneco and Case. Both are internationally known for quality products and methods of conducting business. David Brown, over the years, has produced a fine line of equipment and has built an excellent operating organization. I believe we both have something to contribute to the other."

Tree And Shrub Care Released By USDA

Here's an interesting way to educate customers about your profession. The U.S. Department of Agriculture has just published a 12-page booklet on transplanting trees and shrubs. A copy of this booklet left with a customer will go a long way in creating repeat business.

The booklet gives step-by-step instructions for digging up and replanting, along with illustrations. Root pruning—the key to successfully moving wild trees and shrubs—is also discussed. Once the plant is in its new home, instructions are given for proper care until the tree or shrub becomes established.

Copies of Home and Garden Bulletin 192, "Transplanting Ornamental Trees and Shrubs," are available for 10 cents each from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.

Northern Michigan Turfgrass Field Day Sept. 13

The Northern Michigan Turfgrass Field Day will be held on Wednesday, September 13, 9:30 A.M. at the Traverse City Country Club, Traverse City.

The morning session will consist of viewing of the turfgrass experimental plots with stops covering turfgrass varieties, dry spots and compaction, fertilizer rates and carriers, turfgrass weed control, growth regulators, turfgrass disease problems, and greens maintenance.

The afternoon session will be devoted to equipment demonstrations.

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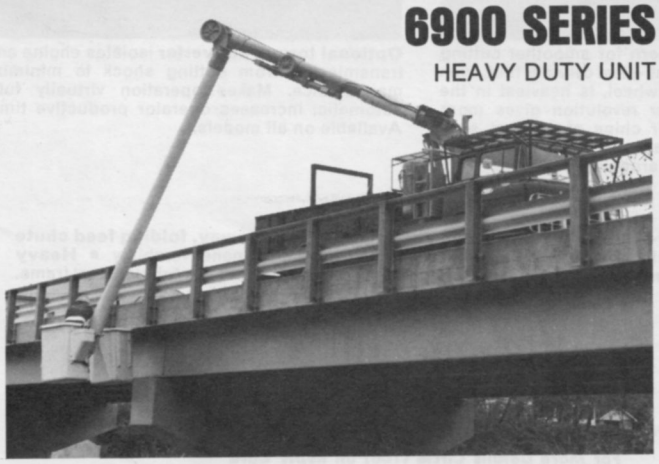

THE 6900 SERIES are heavy duty reach up-and-over, reach down-and-under models with 90° total movement on the lower boom. Available with Type "A" center design, 210° outer boom action; or type "C" center action with 270° total outer boom movement; in 40, 45, and 50-Ft. sizes and many standard SKYWORKER options. For complete technical data, write DEPT. WT-4.

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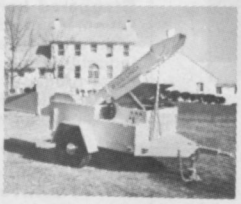

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First, there's less down-time for blade adjustment and replacement. The Wood/Chuck's blades lock into the rugged rotor and automatically position properly. This takes just minutes for a Wood/Chuck but often requires hours with other chippers. Wood/Chuck's blades are "V"-grooved for full length support that means extra safety. And where most "chippers'" blades are so positioned that chips are actually crushed away . . . the Wood/Chuck's shallow blade angle slices chips away. Goodbye friction, wasted energy and vibration; jobs go faster, fuel goes farther.

Only the Wood/Chuck has really been built from the ground up as a chipper for heavy-duty use. It's modern, functional, no-nonsense design sets it apart. Above all, the Safety Test Wood/Chuck has that built-in Safety Test "Extra Measure" of dependability. You can rely on it to do a full day's work . . . day after day, year after year. Frankly, there are dozens of reasons why no other chipper compares with the Wood/Chuck. You owe it to yourself to get the full story from your Wood/Chuck representative or write Safety Test & Equipment Co., Inc., P.O. Drawer 400, Shelby, N. C. 28150.

—meeting dates—

Rutgers Turfgrass Research Day, College of Agriculture, College Farm Road and Dudley Road, New Brunswick, N.J. August 10.

International Shade Tree Conference, Inc., 48th annual, Newporter Inn, Newport Beach, Calif., Aug. 13-17.

American Association of Nurserymen Management Seminar, Syracuse University campus, Aug. 13-18.

Canadian Parks/Recreation Association, 1972 conference, Ottawa-Chateau Laurier Hotel, Aug. 14-17.

Hawaii Turfgrass Management Conference, 8th annual, Hilton Hawaiian Village Hotel, Honolulu, Hawaii, Aug. 23-25.

Northern Michigan Turfgrass Field Day, Traverse City Country Club, Traverse City, Mich., Sept. 13.

International Pesticide Applicators Association, Inc., annual meeting, Thunderbird Motor Inn, Portland, Ore., Sept. 14-16.

Midwest Turf Field Day, agronomy farm, Purdue University, West Lafayette, Ind., Sept. 25.

National Congress for Recreation and Parks, Convention Center, Anaheim, Calif., Oct. 1-6.

Eastern Kentucky Turfgrass Field Day and Conference, Powell Building, Eastern Kentucky University, Richmond, Ky., Oct. 10-11.

Turfgrass Equipment and Materials Educational Exposition, 12th annual, Southern California Turfgrass Council, Brookside Park, Pasadena, Calif., Oct. 11-12.

Southwest Turfgrass Conference, New Mexico State University, Las Cruces, N. Mex., Oct. 12-13.

Missouri Lawn and Turf Conference, 13th annual, Ramada Inn, Columbia, Mo., 8-9.

Nebraska Weed Control Conference, 26th annual, Holiday Inn, Kearney, Neb., Nov. 8-10.

Washington State Weed Conference, Chinook Motel and Tower, Yakima Wash., Nov. 15-17.

Nebraska Turfgrass Conference, Kellogg Center, University of Nebraska, Lincoln, Nebr., Nov. 20-22.

Oklahoma Turfgrass Conference, student union, Oklahoma State University, Stillwater, Okla., Nov. 29-30.

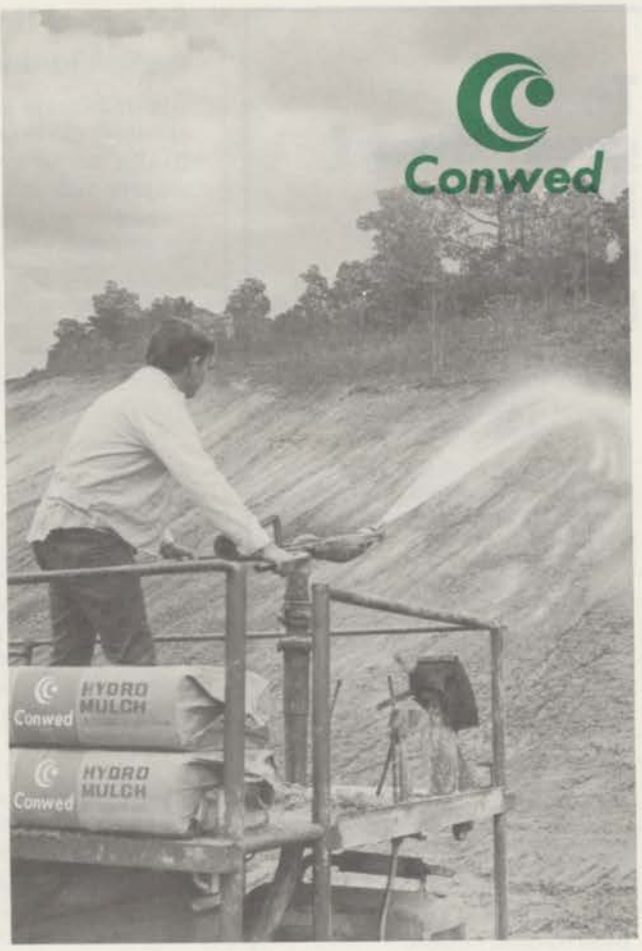
National Agricultural Aviation Assoc., 6th annual International Conference, Las Vegas Hilton (International) Hotel, Las Vegas, Nev., Dec. 11-14.

Ohio Turfgrass Conference and Show, Franklin County Memorial Building, Columbus, Ohio, Dec. 12-14.

Golf Course Superintendents Association of America, 44th annual International Turfgrass Conference and Show, Boston, Mass., Jan. 7-12.

California Weed Conference, 25th annual, Disneyland Hotel, Anaheim, Calif., Jan. 15-17.

Michigan Turfgrass Conference, 43rd annual, Kellogg Center, Michigan State University, E. Lansing, Mich., Jan. 16-17.



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The great dwarf Bluegrass that stands below the rest.

NUGGET BLUEGRASS
Nugget Kentucky Bluegrass was discovered in Alaska near the old mining town of Hope on Cook Inlet.

In tests by leading turf research workers, characteristics of Nugget have proven to be outstanding, with exceptionally uniform performance over a broad area.

DWARF CHARACTERISTICS
Nugget is a decumbent, dwarf type cultivar of Kentucky Bluegrass. Its leaves grow close to the ground and at cuts as low as 3/4 inch Nugget still displays excellent turf quality in both appearance and strength. Nugget has exceptionally uniform regrowth, remaining neat and even if left uncut for longer than usual lengths of time.

SHADE ADAPTABILITY
Nugget's tolerance to powdery mildew contributes to its superior performance in shade as compared to other bluegrass varieties.

DISEASE RESISTANCE
In broad tests, Nugget has consistently ranked outstanding in resistance to Helminthosporium Leafspot. Nugget also shows good tolerance to Stripe Smut. It has also shown resistance to leaf rust, powdery mildew, and snow mold.

APPEARANCE AND COLOR
Along with its uniform growth, Nugget's appearance is enhanced by its fine leaf texture and unusually deep, dark green color.

SEED QUALITY
Only Certified Blue Tag Nugget Kentucky Bluegrass, free of poa annua and bentgrass, is marketed. Only Certified Nugget is a direct progeny of the Alaska-grown seed.

Nugget . . . The Kentucky Bluegrass that survived Alaska. Try it where you live.

Write today for more information on Nugget, the dwarf grass that stands below the rest.

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Nugget

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Safety and Health Act Audio-Visual Now Available

A 20-minute audio-visual analysis of the Occupational Safety and Health Act is now available for employers and insurance carriers.

"OSHA MADE CLEAR," consists of 80 color slides, packed, ready to show, in a Kodak carousel, with a 20-minute tape casette. It is offered for purchase or weekly rental exclusively by The Film Library of the Greater Los Angeles Chapter of the National Safety Council.

Produced with the technical assistance of the U.S. Department of Labor, OSHA Enforcement Division, and the California Division of Industrial Safety, with special industry consultants, Marsh and McLennan, Los Angeles, this very latest update on the Occupational Safety and Health Act is concisely narrated by Joseph M. Kaplan, CAE, executive vice president of the Greater Los Angeles Chapter.

"OSHA MADE CLEAR" is a MUST for executives, management, supervisors, arborists, workmen's compensation personnel, industrial, employee relations, labor relations staff . . . in short, for each and every individual who has responsibility for meeting requirements of the Act.

Inquiries regarding "OSHA MADE CLEAR," as well as requests for The Film Library's new catalog of safety and training films, should be directed to: THE FILM LIBRARY, Greater Los Angeles Chapter, National Safety Council, 3388 West 8th St., Los Angeles, CA. 90005.

Trees Can Kill Themselves Says Purdue Horticulturist

Can trees commit suicide?

Literally yes, says John A. Wott, Purdue University extension home environment horticulturist, for many trees kill themselves by strangulation.

One or more big fleshy roots, called girdling roots, grow in a winding fashion around the stem. These roots restrict sap flow, kill one limb after another, and finally destroy the trunk area above the girdled point.

Maples, especially Norway and red maples, elms, oaks, and pines are prone to develop girdling roots, notes Wott. Frequently, man is an accessory when he carelessly transplants trees by stuffing the roots into a small hole or failing to cut or straighten roots of container-grown plants.

Sometimes girdling roots grow at the soil line and are quite noticeable. But usually you must dig away the soil a few inches around the trunk to see them. You can generally tell on which side the girdling root is located adds Wott. A healthy tree develops buttress roots which flare out as the trunk enters the soil. If the side of the tree is straight as a pole, the tree may have a girdling root.

Fall is the ideal time to look for girdling roots. Often the lower half of the tree's foliage will color before the tree's more healthy top half does. Or, leaves at the ends of certain branches will turn yellow before general coloration begins.

The best method to correct girdling is with a chisel and mallet. Cut the offending roots and paint the cut areas with antiseptic wound dressing. Then feed the tree to restore lost vigor to the plant.

Wayne Manufacturing Co. To Merge With FMC Corp.

FMC Corporation and Wayne Manufacturing Co. have reached an agreement in principal for the merger of the two companies whereby the latter firm will become an operating division of FMC. The announcement has been made jointly by FMC President Robert H. Malott and Wayne Board Chairman Gil M. Wayne.

The merger requires approval by Wayne stockholders. Principal terms, however, have been approved unanimously by Wayne's Board of Directors.

FMC Corporation, with headquarters at San Jose, California, is a multinational producer of diversified mechanical products, chemicals, textile fibers, and packaging film. Sales in 1971 totaled $1.35 billion.

Wayne is a major manufacturer of mechanized municipal and industrial sweeper equipment. The company, located in Pomona, California had 1971 sales of $28 million.

In commenting on FMC's interest in acquiring Wayne, Mr. Malott said that the increasing emphasis on cleaner cities and safer working conditions in industrial plants is creating an expanding market for sweeper equipment. He also referred to Wayne's position in overseas markets, with operations in seven countries, as a further basis for growth.

— classifieds —

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10¢ per word, minimum $3.00. All other classifications 20¢ per word, minimum $4.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment. Boldface rule box: $25.00 per column inch.

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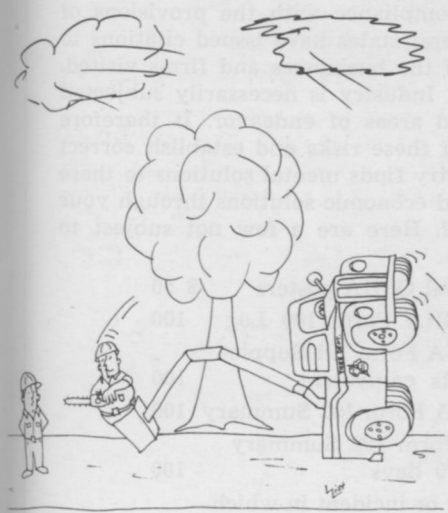
MISCELLANEOUS

SHORT COURSE IN PARK AND GROUNDS MAINTENANCE. Use the National Institute on Parks and Grounds Maintenance to update your maintenance program, solve problems. Top experts on turf, trees, chemicals, etc. Largest Equipment exhibit. For delegate information on conference in Kansas City, Mo. October 30 — November 2 write: Institute, Dept. B, P.O. Box 409, Appleton, Wisc. 54911.

TREE APPRAISALS, SURVEYS, loss evaluations and expert consultation services. For names of members of the American Society of Consulting Arborists, Inc., throughout the country, contact: Executive Director ASCA, 12 Lakeview Ave., Milltown, New Jersey 08850.

LANDSCAPE DESIGN KIT 37 rubber symbol stamps and ink pad, postpaid $25.00 C.O.D. $26.00 plus postage. Order direct or brochure sent. California add tax. T-Gordon's, Box 741T, Reseda, Calif. 91335.



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TREE SERVICE FIRM. Full line of modern equipment. Located in small town in central U.S.A. Box 88, Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

7 GANG ROSEMAN mowers $1,000. I.H.C. Twin Screw tractor, $2,200. Tandem flat bed semi-trailer $400 up. Phone 414 484-3941.

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DOUBLE EDGE sod cutter blades. Will fit any Ryan sod cutter. Works like double edge razor blade. Cuts much more sod per blade. Made to bolt on both ways. $24.00 plus postage. New automatic sod loaders for direct loading to pallets, trucks or trailers. No workers needed on ground. Both products developed and designed by Hadfield. Write or call Glen Hadfield, 4643 Sherwood, Oxford, Michigan 48051. Phone 313 628-2000.

400 ACRES muck ground, flat and well drained, with ditches and dams for irrigation. Ideal for sod farming. Phone 219 362-3374. La Porte, Ind.

HELP WANTED

PARKS SUPERINTENDENT — City of Albion, Michigan, population 12,100, home of Albion College. Prefer B.S. in Parks Management or related field, plus experience. Responsible for administration, development, and operation of eight parks, one cemetery, and maintenance of trees on city streets. Salary, $9,000-$10,000. Send resume to Public Works Director.

BUSINESS OPPORTUNITIES

A WELL ESTABLISHED Tree Surgery and Landscape business located in southern New England is looking for a man who would sell tree service and landscape work in surrounding areas; one who is aggressive, with initiative and capability to sell. This business will be sold to the right man for as little as $15,000.00 down to start. Owner has to slow down and remove himself within a 3 or 4 year period. Send your resume and we will set up an appointment. All replies confidential. Write Box 87, Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

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— trimmings —

WHITE-FOOTED DEER MICE are important predators of the gypsy moth caterpillar. USDA scientists are implanting battery-operated transistor radio signalling devices in the body cavities of these mice to aid researchers in their studies of movement patterns and mortality factors. By keeping tab on the mice as they seek out gypsy moth caterpillars for food, scientists expect to learn of new infestations, "hot spots," and direction or extent of gypsy moth spread.

A 12-PAGE BULLETIN on chlordane sample labels, based on Federal label registrations is available from Velsicol Chemical Corporation. The bulletin includes labels for chlordane use on shade trees, ornamentals, turf, seed treatment, perennials and annuals, as well as a variety of agricultural crops.

TREE RUSTLIN' is the latest prank in the news. That's the word from the Forest Preserve patrol for Illinois' Cook County Forest Preserve. It seems that over this past winter tree bandits cut down and hauled off scores of choice walnut trees. What's a "hot" tree worth? Plenty! One Indiana homeowner reported getting $10,000 for a single perfect veneer specimen. (And his was legitimate) With stakes this high, unlawful requisition of prime trees is well within the reach of anyone with a chain saw and a "souped-up" truck.

WATERFOWL HUNTERS are scoring a delayed action hit on birds, particularly geese. An estimated two to three million feathered friends die each year in the United States, not from high velocity shot but from expelled shot laying around in their water habitat. Lead shot poisoning, as it's called, is becoming more acute as the hunter's aim gets worse. Exposed lake bottoms on the Eastern Shore of Maryland are literally shot saturated. Officials estimate that 6,000 tons of lead shot are discharged each year over waterfowl habitats.

FLEXIPANE is a newly developed material for construction and all purpose use. It is a unique wire fabric laminated from 20 gauge wire netting and 4-5 mil clear poly. It features unusual strength, durability, retains heats, admits light, shuts out cold, wind and dust. Shape it to fit your needs. Sound interesting? The uses are as many as your imagination is big. For more details write to Flexipane Corp., 1275 Route 23, Wayne, N. J. 07470.

KEN REISCH, a member of the Landscape Horticulture faculty at Ohio State University for about two decades, has been promoted to associate dean of the college of agriculture. His work has involved active research in plant evaluation, viability, nutrition, taxonomy and he has contributed more than 90 scientific articles to leading journals.

THUMB-NAIL SKETCH of Maryland's sod industry has been released by the Maryland State Board of Agriculture. A 12-page booklet is currently available which shows that 11,780 acres were devoted to commercial turfgrass production in 1971. Production was spread among 64 reporting producers in 15 of Maryland's 23 counties. About a third of the acres was cut and sold last year with a reported value of $3.67 million. For a copy of the report, write: SBA Publication No. 55, Maryland Crop and Livestock Reporting Service, P.O. Box AG, College Park, Md. 20740.

GRANULAR CHLORDANE is recommended as a secondary control for the primary problem of moles. These furry fellows feed on grubs. According to Michigan State University entomologist, William Wallner, getting rid of the grubs will also get rid of moles.

ADULTS aged 21 to 35 litter three times as much as those over 50 and nearly twice as much as those persons between 35 and 49. Men litter nearly twice as much as women. No wonder we have changed the name of trash-man to sanitation engineer.

$19,500 Research Grant Awarded To Texas A&M

Texas A&M University has received a grant of $19,500 from the Green Section Research and Education Fund of the United States Golf Association.

The grant was awarded to Dr. Richard L. Duble, Dr. Kirk W. Brown and Wallace G. Menn, all with the department of soil and crop sciences.

The grant is to support field research on the physical and chemical characteristics of soil mixtures used in the construction of golf greens.

According to Duble, particular emphasis will be placed on moisture relationships, nutrient status, and recycling of fertilizer nutrients, plant protectants and water.

"Efforts will be made to record a complete water and chemical balance from all soil mixtures. This will provide data on the efficiencies of fertilizer elements and the losses of plant protectants from intensely managed golf greens," he said.

COMPLY OR PAY FINE

Officials administrating the Occupational Safety and Health Act report excessive violations and noncompliance with the provisions of the Law. Inspecting officers in several states have issued citations to as many as 95 percent and more of the businesses and firms visited. A growing industry like the Green Industry is necessarily subjected to risks not common to established areas of endeavor. It therefore behooves us to become cognizant of these risks and establish correct patterns of safety. Unless this industry finds mental solutions to these problems, OSHA inspectors will find economic solutions through your pocketbook. The penalties are stiff. Here are a few not subject to reduction:

1. Failure to post the official OSHA posters	$ 50
2. Failure to maintain OSHA Form 100 Log	100
3. Failure to maintain OSHA Form 101 Supplementary Record or its equivalent	100
4. Failure to compile OSHA Form 102 Summary	100
5. Failure to post OSHA Form 102 Summary by February 1, for 30 days	100
6. Failure to report fatality or incident in which five or more employees are hospitalized	200
7. Failure to post citation received at the worksite	500

For More Details on the Following Page Circle (116) on Reply Card

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They call it "The Unsurvivable One!" Because nothing wipes out chinch bugs, sod webworms and many other serious turf pests like DURSBAN* insecticide. And DURSBAN insecticide won't leach. It has excellent residual activity. It's safe, too, for all common turf grasses. And economical—you get more bugs for your buck, because so little goes a long long way. Ask your Dow distributor or your contract applicator for "The Unsurvivable One!"

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Baron Bluegrass germinates rapidly, grows slowly, and is adapted to mowing as low as ¾" . . . making it ideal for golf courses, fine lawns, and industrial properties. Its broad blades interlock to make a crisp surface ideal for holding a golf ball on the fairway.

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GOLF COURSE BUILDERS OF AMERICA
MEMBER

Dr. C. R. Skogley examines a strip of Baron sod.

Dr. C. Richard Skogley, Professor of Agronomy, Plant and Soil Science at the University of Rhode Island, reports: "In America, Baron has perhaps been grown longer on the proving grounds at Rhode Island than at any other locale and has performed exceedingly well in our trials. It has consistently rated among the best. It resembles Merion in many respects but seems less subject to dollarspot and less demanding of fertilization. So far we have seen no stripe smut, and leafspot incidence has been very light."

Dr. Skogley has recently released from the University three new improved varieties of grasses—Jamestown Red Fescue, Exeter Colonial Bentgrass and Kingstown Velvet Bentgrass—which are now available from Lofts.

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